BULLETIN BOTANICAL RESEARCH

第12卷，第1期　　1992年1月
Vol. 12, No.1　　Jan., 1992

旧大陆的蒿属植物

林有润

THE OLD WORLD ARTEMISIA LINN. (COMPOSITAE)*

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〔摘要〕 本文报导了亚、欧、非三洲的蒿属（*Artemisia* Linn.）植物的系统分类、分布及区系地理等。在系统分类与分布项中，作者介绍了各学者研究该属的观点；分亚属、组的特点，亲缘关系及经订正与考证的该属298种、63变种及补遗5种、2变种的正名、异名及其分布地区。在区系地理项中，作者结合古植物孢粉证据，论述了该属的起源中心、冰期前后该属植物在地球上的迁移路线、现代分布中心、分布区密集中心及次生的起源、分化与分布中心等，同时对亚、欧、非三洲蒿属区系分10亚区、28地区成分加以论述。

关键词　旧大陆，蒿属

Introduction

Artemisia Linn., sensu stricto, is one of the largest genera in *Compositae* and it is an important genus in the economical uses. The totals of it are more than 380 species in the world, but 298 species and 63 varieties of them distribute in the Old World, included in Asia, Europe and N., E. & S. Africa. Besides, about 106 species are distributed in N. America. In *Artemisai* Linn., many species are used for the drugs, or herbages, or the helpful plants of wind-breaking and sand-fixation in the steppe, semi-desert and desert areas etc. Some essential oils from the genus are used for chemical industrial materials.

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* Sensu stricto, i. e. excluded *Artemisia*, Sect. *Seriphidium* Bess., which have been transferred into genus, *Seriphidium* (Bess.) Poljak. (1961).

Thanks for the Science Funds for researching the project, and most funds were from The Chinese Academy of Sciences, but a part of funds from Royal Society and British Museum (Nat. His.), UK, in 1986. Thanks for Lad. Syst. Evol. Bot. IBAS serving the publishing expenses.

The history of researching the *Artemisia* would be back in prehistoric age in China. "Shi Jing" (The Book of Songs, 1796—1233 B. C.) and "52 prescriptions" (168 B. C.) had recorded " Ai " and "Hau" , which are the *Artemisia*. In the Western, J. P. Tournefort was the first nomenclator to name 3 genera, *Absinthium*, *Abrotanum* and *Artemisia* in 1700. But in 1753 C. Linnaeus reduced them into genus *Artemisia* Linn. by "Binominal Nomenclature" and 19 species of the genus were cited in "Species Plantarum". Later,W. Besser recognized three sections——*Artemisia Seriphidiis* (1834);*Artemisia Abrotana* (1834) and *Artemisia Dracunculi* (1835) in his monograph of *Artemisia* Linn. then, De Candolle classified systematically 185 species of the genus and kept the species into four sections——Sect. I. *Dracunculus* Bess., Sect. Ⅱ. *Seriphidium* Bess., Sect. Ⅲ. *Abrotanum* Bess. and Sect. Ⅳ. *Absinthium* DC. in "Prodromus" in 1837.Accroding to W. Besser and De Candolle's ideas, Sect. I. *Dracunculus* Bess. is that the capitula are with some heterogamous florets, outers, or ray florets, pistillate, and inners, or disk florets, are hermaphrodite, but the ovaries in latters are absorbed, i. e. sterile; Ⅱ. *Seriphidium* Bess. are all with a few hermaphrodite and fertile florets in the capitula; Sect. Ⅲ. *Abrotanum* Bess. are similar to Sect. I. *Dracunculus* Bess., but in capitula of the section all hermaphrodite florets are fertile and in Sect. Ⅳ. *Absinthium* DC. the species are different from that of Sect. Ⅲ. *Abrotanum* Bess. by covering the hairs on the receptacle of capitula. In addition, De Candolle considered Sect. I. and Ⅱ. are more primitive than Sect. Ⅲ. and Ⅳ. Before them, H. Cassini in 1817 raised the genus, *Oligosporus* Cass., which is just the same of Sect. *Dracunculus* Bess. of *Artemisia* Linn. in.*Artemisiees*. Since then some revisions and reductions to above genera had been undertaken. (Tab. 1.).

H. M. Hall. and F. E. Clements reproduced the W. Besser and De Candolle's ideas and they considered that, Sect. *Abrotanum* Bess. is the primitive, which maybe derived from *Chrysanthemum* Bip.-Ship. or *Tanacetum* Linn. and three branches had been reproduced from Sect. *Abrotanum* Bess. (fig. 1.): the first branch is Sect. *Absinthium* DC.,that is a special branch with long hairs on the receptacle of the capitulum; the second one is Sect. *Dracunculus* Bess., in which the disk florets are staminate by the reduction of the pistils, so achenes absorbed; the third is Sect. *Seriphidium* Bess., which completely reduction of ray-florets, so ray florets wanting. R. Pampanini had researched Asian *Artemisia* Linn. and recognized 146 species, 176 varieties, 198 forms and 49 subforms of *Artemisia* Linn. in Asia, but he had never arranged all species in a natural system and some species, varieties, forms and subforms were examined too confused to clarify them. G. Hegi provided another system for *Artemisia* Linn. with its allies (fig. 2.). In the system the ancestor of *Artemisia* Linn. and its allies were derived from *Tanacetum* Linn., which was from *Chrysanthemum* Bip.-Ship., and *Artemisia* Linn., at least, developed into 3 branches: the first one is to the *Dracunculus* [=*Oligosporus*, included *Picrothamnus* (*Artemisia spinescens*)]; the second is via "*Abrotana fruticosa*" into 3 branchlets, but two of which are for Sect. *Abrotanum*, sensu lato, included Sect. *Artemisia*, and one branchlet towards another two sections——Sect. *Absinthium* and Sect. *Seriphidium* of Eurasia; the third branch solitaryly to Sect. *Seriphidium* of N. America only, incl. A. bigelovii and A. tridentata, both of which are covered with scales on the receptacles of capitula.

I. V. Kraschenninikov changed Asa Gray's Sect. *Euartemisia* to Subgenus *Euartemisia* (Asa Gray) Krasch., which included Sect. *Abrotanum* Bess. and Sect. *Absinthium* DC. and he kept another 3 subgenera——Subgen. *Dracunculus*, Subgen. *Seriphidium* and Subgen. *Mausolea* (Bge.) Krasch. in the genus. Furthermore, a new allied genus——*Stilpnolepis* Krasch., which's represented by *S. centiflora* (Maxim.) Krasch.——*Artemisia centiflora* Maxim., was transferred from Sect. *Seriphidium* Bess. of *Artemisia* Linn. G. Wendelberger in 1960 divided European *Artemisia* Linn. into 5 subgenera— Subgen. 1. *Artemisia* Cass. (ap. Less. 1832); Subgen. 2. *Absinthium* (Besser pro sect.) Besser ap. Lessing 1832; Subgen. 3. *Dracunculus* Besser (pro sect. Rydb.——syn. *Oligosporus* Cass.); Subgen. 4. *Seriphidium* (Bess. pro sect.) Besser ap. Lessing 1832. and Subgen. 5. *Mausolea* (Bge.) Krasch. In 1961 P. Poljakov showed that *Artemisia* Linn. could contain Subgen. 1. *Artemisia*, incl. Sect. 1. *Artemisia*, Sect. 2. *Stellerianum* (Rzazad.) Poljak., Sect. 3. *Absinthium* DC. and Sect 4. *Artanacetum* (Rzazad.) Poljak.; Subgen. 2. *Dracunculus* (Bess.) Rouy, incl. Sect. *Dracunculus* Bess. and Subgen. 3. *Seriphidium* (Bess.) Rouy, incl. Sect. *Seriphidium* and. Sect. *Junceum* Poljak. Later he renewed gen. *Oligosporus* Cass. instead of Sect. *Dracunculus* Bess. of *Artemisia* Linn. and transferred a new genus, *Seriphidium* (Bess.) Poljak. from Subgen. *Seriphidium* (Bess.) Rouy of *Artemisia* Linn. Besides, he raised or revised some new allied genera——*Mausolea* Bge. ex Poljak., *Neopallasia* Poljak., *Kaschgaria* Poljak. and *Turaniphytum* Poljak. etc. However, T. G. Tutin & al. according to the fertile or not from the ovaries of hermaphrodite florets in capitula divided simply the European *Artemisia* Linn. into two sections——Sect. 1. *Artemisia*, incl. syn. Sect. *Absinthium* (Miller) DC. and syn. Sect. *Seriphidium* Bess., and Sect.

2. *Dracunculus* Bess.

At present-day, Y. R. Ling has researched and published the papers to show the classification, distribution, relationship (fig. 3.) and the floristic geography of *Artemisia* Linn. with its allies, and the Chinese Flora of *Artemisia* Linn. etc. Now author give the genus in the Old World an advanced exploration and collation. Here author would like to recommend a new concept on the phylogeny and geography for the genus in the Old World.

Tab. 1. The earlier systems to *Artemisia* Linn. with its allies.

H. Cassini (1817).
    Artemisiees incl.
    Abrotanella Cass.
    Oligosporus Cass.
    Artemisia Cass.
    Absinthium Cass.
    Humea Cass.
C. F. Lessing (1832).
    Oligosporus Cass.
    Artemisia Linn.
    Subgen. 1. Seriphida Less. (Seriphidia).
    Subgen. 2. Artemisia Cass. (incl. syn. Abrotanum Tourn.)
    Subgen. 3. Absinthium (Tourn.) Less.
A. Petermann (1849).
    Artemisia Linn. incl. 4 subgenera (Uuttergatungen)
    Subgen. 1. Absinthium Less. (——Sect. Absinthium DC.——Absinthium Tourn.)
    Subgen. 2. Abrotanum Peterm. (——Sect. Abrotanum Bess.——Abrotanum Tourn. ——Artemisia Cass.)
    Subgen. 3. Dracunculus Peterm.(——Sect. Dracunculus Bess.——Oligosporus Cass.)
    Subgen. 4. Seriphidium Peterm. (——Sect. Seriphidium Bess.)
M. Grenier & M. Godron (1850).
  Artemisia Linn.
    Sect. 1. Euartemisia Nob., incl. syn. Sect. Absinthium Bess., Sect. Abrotanum Bess. and Sect. Dracunculus Bess.
    Sect. 2. Seriphidium Bess.
Asa Gray (1884).

Artemisia Linn.

Sect. 1. Dracunculus Bess.

Sect. 2. Euartemisia A. Gray, incl. syn. Sect. Abrotanum Bess. and Sect. Absinthium DC.

G. Rouy (1903).

Artemisia Linn. incl. 2 subgenera (Sous-Genre)

Subgen. 1. Euartemisia Rouy, incl. Sect. Dracunculus Bess., Sect. Abrotanum Bess. and Sect. Absinthium DC.

Subgen. 2. Seriphidium Rouy.

The Phylogeny fo Artemisia Linn.

Artemisia Linn. differs from allied genera of Trib. *Anthemideae* in *Compositae* by the paniculate, spicate or racemose or corymb-paniculate inflorescences with more or less capitula, which are solitary or glomerous and contain more or less heterogamous florets in it, never corymbose inflorescences, pappus wanting and scaleless on receptacle of capitula, but in some species possesses hairs.

Pollen grains have shown that the extine of them is densely minute spinulose, with 3 distinct thin layers and granulate sculpture, but reticulate columellae are usually raised in the primary section, as in the species of Sect. *Absinthium* DC.

Capitula semispherical, spherical, ovoid or ellipsoid, outer or ray-florets, pistillate, 3—10 or more, in (2 –) 1—series, corolla cupuliform, conical or tubular or strictly tubular, (4 –)3—2-toothed, style elongated out of the corolla, bilateral and acute at the apex; inners or disk-florets, hermaphrodite, several to numerous in 2-more series on receptacle for each capitulum, corolla tubular, 5-toothed, a syngenesious stamen, which's with an acute triangular appendix at the apex of anther and 2 acute or obtuse appendices at the base, surrounding pistil, style elongated, but it's usually the same length, or a little longer or shorter than that of corolla, bilateral, but with truncate and penicillate tip, ovary fertile or sterile, in the latter the degenerative ovarry present or absent. Achenes for both pistillate and fertile hermaphrodite florets are obovoid, ovoid or oblong, faintly striated. Receptacle raised or flat, naked, or it's covered with hairs in species of Sect. *Absinthium* DC. Involucre-bracts 3—4-seriate, imb-

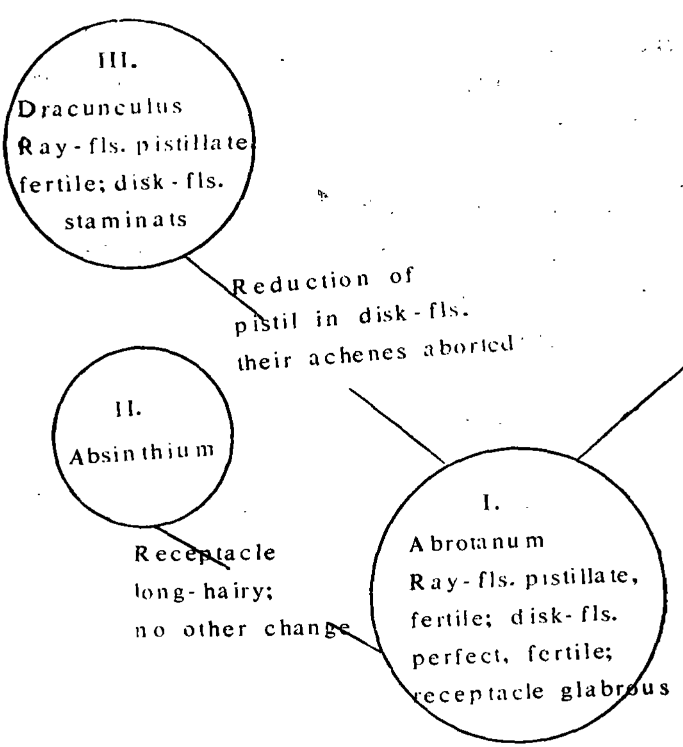

Fig. 1. ——Phylogenetic chart of the sections of Artemisia L. (by H. M. Hall & F. E. Clements)

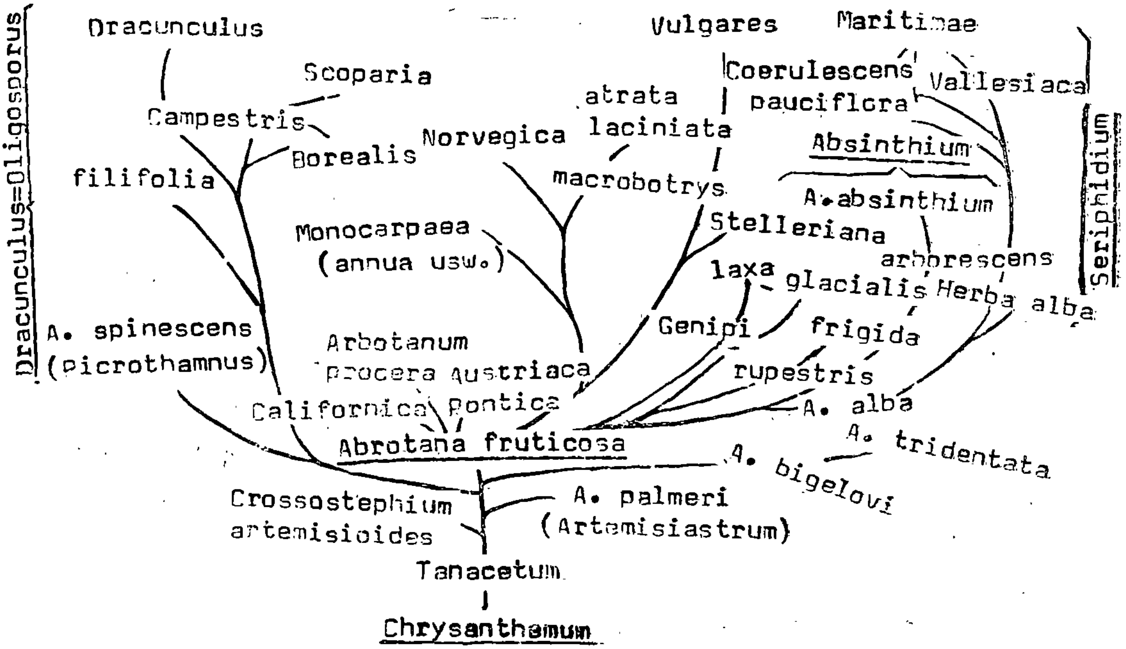

Fig. 2. ——Phylogenetic chart of Artemisia L. (by G. Hegi).

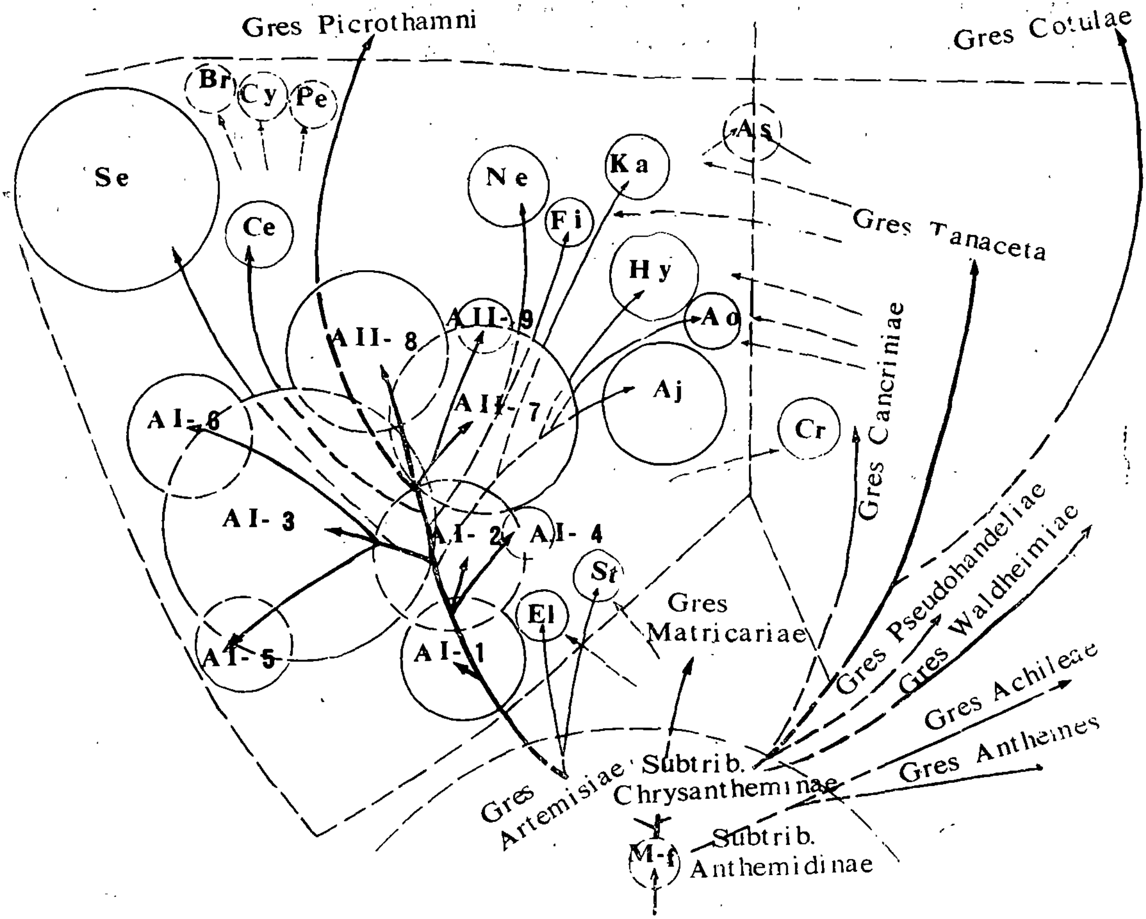

Fig. 3.——Phylogenetic chart of genera of Trib. Anthemideae (by Y. R. Ling, 1982)

El—Elachanthemum Ling & Y. R. Ling; St—Stilpnolepis Krasch.; A—**Artemisia** L. (AI—Subgen. I. **Artemisia**; AI—1. Sect. 1. **Absinthium** DC., AI—2. Sect. 2. **Abrotanum** Bess., AI—3. Sect. 3. **Artemisia**, AI—4. Sect 4. **Artanacetum** Poljak., AI—5. Sect. 5. **Viscibipubes** Y. R. Ling, AI—6. Sect 6. **Albibractea** Y. R. Ling; AII—Subgen. Ⅱ. **Dracunculus** Peterm.; AⅠ—7. **Dracunculus** Bess., AⅡ—8. Sect. 8. **Latilobus** Y. R. Ling, AⅠ—9. Sect. 9. **Turaniphytum** (Poljak.) Y. R. Ling; Aj—**Ajania** Poljak.; Hi—**Hippolytia** Poljak.; Ao—**Ajaniopsis** Shih; Ka—**Kaschgaria** Poljak.; Fi—**Filifolium** Kitam.; Ne—**Neopallasia** Poljak.; Ce—**Centipeda** Lour.; **Se—Seriphidium** Poljak.; Cr—**Crossostephium** Lour.; Br—**Brachymeris** DC.; Gy—**Gymnopentizia** Benth.; Pe—**Peysousea** DC.; As—**Asaemia** Harv.; M-f—**Matricaria-form** Plant.

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敬告作者

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谢谢合作

《植物研究》编辑部

1992年1月1日

ricate, herbaceous with membranaceous margins or wholly membranaceous, abaxial surface naked or usually covered with tomentose, arachnoid, puberulent or glandular or viscid hairs and with a green costa.

Perennial, annual or biennial herbs, or subshrubs or shrubs; leaves alternate, usually sectioned or serrulated or leaves entired, and usually covered with tomentose, arachnoid, puberulent or glandular or viscid hairs, or hairless on both or abaxial surface.

Subgen. I. **Artemisia**

Hermaphrodite florets fertile in capitula and the length of styles in florets are longer or as long as that of corolla. Receptacle naked or covered with hairs. Involucre-bracts herbaceous with membranaceous margins or bracts wholly membranaceous.

Sect. 1. **Absinthinm** DC.

Capitula hemispherical or spherical. Receptacle covered with hairs. Florets usually 80—100 or more than 100, rarely less than 50 for each capitulum. Involucre-bracts herbaceous with membranaceous margins. Herbs; stem, leaves and involucre-bracts covered commonly by tomentose or puberulent hairs; leaves pinnately sectioned, segments linear, filiform or serrated.

What the receptacle is covered with hairs is the main diagnostic character, which differs from other sections in the genus, and the capitula in the section are larger with numerous hermaphrodite florets in capitula, than that of other sections. But many centreal florets usually fail to mature before the cessation of flowering. The corolla of pistillate florets are more or less similar to the inners. Those are cupuliform and (4-) 3-toothed, and sometimes, in some primitive species, as in *A. macrocephala* Jacq. ex Bess. and *A. rupestris* Linn. etc., there are relics of degenerative androecium inside the corolla. It's shown that the division from the central hermaphrodite florets to the marginal pistillate are unperfect. Besides, the hairs on the receptacle would be shown the ancestor of it from what species was covered with the scales on the receptacle, but perhaps died in the ecological ages in Trib. *Heliantheae* of *Compositae*. As the result of that, it, perhaps, is the most primitive section in Artemisia Linn.

Distribute in N. Hemisphere, 44 species and 7 varieties in the Old World, but in the colder and more drought areas, and some species are in alpine or subalpine in S. Asia. Besides, a few species distribute in N. America.

Sect. 2. **Abrotanum** Bess.

Capitula spherical or ovoid, rarely hemispherical, each of which contains 50—80 florets, rarely more than 100, or less than 40, without hairs on the receptacle. Involucre-bracts herbaceous with membranaceous margins, and it usually covered with tomentose or puberulent hairs or hairless at the abaxial surface. Corollas of pistillate florets 3—2-toothed. Herbs; leaves pinnately sectioned, segments narrow-linear, filiform or serrated, pectinate, and usually covered with tomentose or puberulent hairs on both or abaxial surface, rarely hairless. That perhaps, is another one of primitive sections, but it's derived from the ancestor of the Sect. *Absinthium* DC. and it's an active from it. ancestor many sections of the genus were diverged in the ecological age.

Distribute mainly in N. Hemisphere, from steppes to moist areas, and in N., S. & E. Africa. 66 species and 7 varieties in the Old World. A few are wide-distributional species. Besides, some species occur at N. America.

Sect. 3. **Artemisia**

Capitula ovoid or ellipsoid, and usually with less than 30 florets, rarely to 50 or some more in so-called "atavistic" or "secondarily primitive" species. Involucre-bracts herbaceous with membranaceous margins, at abaxial surface of the bracts it usually covered with more or less arachnoid tomentose hairs or hairless. Herbs; leaves pinnately parted, segments serrated, lanceolate or leaves entired, usually covered more or less arachnoid tomentose or puberulent hairs at abaxial surface or hairless. The ancestor of the section, perhaps, was developed from that of Sect. *Abrotanum* Bess., but it's one of the advanced sections in the genus, becauce the capitula are smaller and narrower with less florets. Corolla of pistillate florets are strictly tubular, (3 –) 2-toothed.

In the species of so-called "atavistic" and "secondary primitive" species, as in *A. stelleriana* Bess. and *A. smithii* Mattf., although the species with bigger capitula and in which contained more than 50 florets, the corolla of pistillate florets in above types are strictly tubular and (3 –) 2-toothed too, unlike cupuliform and (4 –) 3-toothed in primary primitive species in Sect. *Absinthium.* DC.

N. Hemisphere, with a few in S. Asia, and E. & S. Africa, distributions. 73 species and 10 varieties in the Old World, and most species occur in the moist areas, but a few in the semi-moist arras. Besides, a few "atavistic species" are in N. temperate area, and some "secondarily primitive species" have only be found in or nearby the special area——Hengduang Himalayan Mts.

Sect. 4. **Artanacetum** (Rzazad.) Poljak.

Capitula ovoid or spherical, which are arranged in corymb-paniculate inflorescences, with 30—50 florets in each capitulum. Herbs; leaves pinnately sectioned, segments lanceolate or filiform or narrowly serrated and usually covered with tomentose hairs on both or abaxial surface. It's perhaps a branch, which the ancestor was derived from that of Sect. *Abrotanum* Bess., but hybridized with the ancestor of the species with corymbose inflorescences in the Tribe.

Distribute in drought-cold or moist-cold areas of N. Asia and N. America. 9 species in the Old World.

Sect. 5. **Viscidipubes** Y. R. Ling

Capitula ovoid or ovoid-globose with 30—50 florets. Involucre-bracts herbaceous with membranaceous margins. The corolla in pistillate florets are strictly tubular, rarely conical, 2(– 3)-toothed. Herbs; leaves pinnately sectioned, serrated, segments linear or serrate, usually covered with tomentose hairs, or hairless, but with many glandular or viscid puberulent hairs on stem, branches, abaxial or both surfaces of leaves and even on abaxial surface of involucre-bracts. Those would be the adaptability in the special area——Hengduang-Himalayan Mts., which's the result of "Himalayan Movement" and "Folding Hengduang Mts." made in the ecological age. The ancestor would also be from that of Sect. *Abrotanum* Bess., but in the special topography and climate.

21 species and 5 varieties in the Old World, and most of them distributed from lower to higher altitudes and colder areas in Hengduang-Himalayan Mts., with only a few species distributed extensively to E. or S. Asia.

Sect. 6. **Albibractea** Y. R. Ling

Capitula ellipsoid or ovoid, and each capitulum contains 15—30 florets. All involucre-bracts are wholly membranaceous, naked, without or with unobvious bracteo-foliates at the bases of capitula. It's one of the advanced sections in Subgen. *Artemisia* too, and derived from the ancestor of Sect. *Abrotanum* Bess., but in the warmer areas of S. or S.-E. Asia. Corolla of pistillate florets are strictly tubular, 2—(3-) toothed. Herbs; leaves pinnate-sectioned or parted or leaves entired, but margins toothed, hairless or with tomentose hairs at the abaxial surface.

5 species and 3 varieties in the Old World. Distribute mainly in subtropical and tropical, lower altitudes and moist areas in S. & S.-E. Asia, a few towards S. Qinling Mts. of China.

Subgen. Ⅱ. **Dracunculus** (Bess.) Peterm.

Hermaphrodite florets sterile in capitula, and the length of style usually shorter than that of corolla in florets. Receptacle naked. Involucre-bracts herbaceous or subcoriaceous with membranaceous margins.

Sect. 7. **Dracunculus** Bess., sensu stricto.

Capitula hemispherical, spherical, rarely ovoid, each of it contains (20-) 30—80 florets, the degenerative ovaries in hermaphrodite florets present, rarely absent. Involucre-bracts subcoriaceous or herbaceous with membranaceous margins. Subshrubs, shrubs or herbs; leaves pinnately sectioned or entired, but latter lanceolate or with 3—5 lobes. It's a reduced section and the ancestor, perhaps, derived from that of Sect. *Abrotanum* Bess.. but towards onto drought and cold areas.

54 species and 20 varieties in the Old World, but mainly in steppes, desert or plateau and more drought areas of C. and W. Asia, Europe, N. Africa and N. America. A few species are the wide-distributional in the temperate and subtropical areas of N. Hemisphere.

Sect. 8. **Latilobus** Y. R. Ling

Capitula ovoid-globose or ovoid, and with 15—30(-40) florets in each capitulum, in which the degenerative ovaries in hermaphrodite florets usually absents, rarely present. Involucre-bracts herbaceous with membranaceous margin. Herbs; leaves pinnately parted, segments serrated, lanceolate or toothed at the apex of the lobes. Stem, leaves and involucre-bracts naked or covered with puberulent hairs. It's an advanced section too and the ancestor, perhaps, derived from that of Sect. *Abrotanum* Bess., but developed in the moist areas.

23 species and 11 varieties in the Old World. Distributed mainly in Asia, and in the moist areas, with a few in Europe and N. America.

Sect. 9. **Turaniphytum** (Poljak.) Y. R. Ling

Capitula ovoid-globose with 2—20 (-40) florets, glomerously arranged in spicate inflorescences. The degenerative ovaries in hermaphrodite florets present. Involucre-bracts herbaceous with membranaceous margin. Herbs or subshrubs; leaves pinnate-sectioned, segments linear-filiform or linear, naked or covered with puberulent hairs. The ancestor, perhaps, is that from a branch, what was from Sect. *Abrotanum* Bess. migrated towards more cold and drought areas

3 species in the Old World, and distributed in steppe or drought and higher altitude areas in C. & W. Asia.

The Classification and Distribution of Artemisia Linn. in the Old World

Artemisia Linn.

Linn. Sp. Pl. 2: 845. 1753, Gen. Pl. ed. 5. 3: 367. 1754, sensu stricto, excl. Sect. *Seriphidium* Bess.

Subgen. I. *Artemisia*——*Artemisia*, Sect. *Euartemisia* Gren. & Godr. Fl. Franc. 126. 1850.——Subgen. *Euartemisia* (Gren. & Godr.) Rouy, Fl. Franc. 27. 1903, sensu stricto, excl. Sect. Dracunculus Bess.

Sect. 1. **Absinthium** DC. in Lam. & DC. Fl. Franc. ed 3., 4 : 189. 1805.——*Absinthium* Tourn. Inst. Herb. 1 : 457, t. 260. 1700.——*Absinthium* Gaertn., Mey. & Scherb. Fl. Wettera 3(1) : 196. 1801.——*Artemisia*, Subgen. *Absynthium* Less. Syn Gen. Comp. 264. 1832.

Ser. 1. **Sieversianae** (Kitam.) Y. R. Ling in Bull. Bot. Res. 8(4) : 44. 1988.——*Artemisia*, Subsect. *Sieversianae* Kitam. in Act. Phytotax. Geobot. 8 : 66. 1939.——Sect. *Sieversianae* (Kitam.) Wendelb. in Biblioth. Bot. 125 : 49. 1960.

1. **Artemisia macrocephala** Jacq. ex Bess. in Bull. Soc. Nat. Mosc. 9 : 28. 1836.——*A. griffithiana* Boiss. Fl. Or. 3 : 376. 1875.——*A. sieversiana* Ehrh. ex Willd. var. *pygmaea* Kryl. Fl. Alt. 3 : 656. 1904——*A. akbaitalensis* O. Fedtsch. in Act. Hort. Petrop. 24 : 335. 1905.——*Pyrethrum pamiricum* O. Fedtsch. l. c. 21 : 345. 1903.

China (N. & S.-W.), N. India, Kashmir, Mongolia, Afghanistan, Iran, USSR (W. Sibiria & C. Asia).

2. **Artemisia sieversiana** Ehrh. ex Willd. Sp. 3 : 1845. 1800.——A. moxa DC. Prodr. 6 : 121. 1837.——*A. koreana* Nakai in Bot. Mag. Tokyo 22 : 186. 1909.——*A. chrysolepis* Kitag. in Rep. First Sci. Exped. Manch. 4(2) : 35, fig. 7. 1935.——*A. sparsa* Kitag. l. c. 4(2) : 37, fig. 8. 1935——*Absinthium moxa* Bess. in Bull. Soc. Nat. Mosc. 1 : 228. 1829.——*A. sieversianum* (Ehrh. ex Willd.) Bess. l. c. 1 : 259. 1829.——*Carpesium gigas* Levl. & Van. in Fedde, Rep. Sp. Nov. 6 : 330. 1909.

China (N. & S.-W.), N. Japan, N. Korea, Mongolia, Afghanistan, N. India, Nepal, N. Pakistan, Kashmir, USSR.

3. **Artemisia jacutica** Drob. in Not. Mus. Bot. Acad. Petersb. 12 : 108. 1914.——*A. sieversiana* Ehrh. ex Willd. var. septentrionalis Pamp. in Lav. Inst. Bot. Univ. Cagl. 35 : 3. 1938.

USSR (E. Sibiria).

Ser. 2. Absinthium——*Artemisia*, Sect. *Frigidae* Rydb. N. Amer. Fl. 34(3) : 258. 1916.——Sect. *Argyrotrichae* Krasch. in Mat. Hist. Fl. Veg. 2 : 146. 1946.——Sect. *Lanatae* Wendelb. in Biblioth. Bot. 125 : 49. 1960, non Rydb.

4. **Artemisia sericea** Web. ex Stechm. Dissert. Artem. 16. 1775.——*A. holosericea* Ledeb. Fl. Alt. 4 : 63. 1833, incl. var. *grandiflora* (MB.) Ledeb.——*A. sericea* Web. ex Stechm. var. *steveniana* Bess., var. *gmeliniana* Bess., var. *ledebouriana* Bess. & var. *Pallasiana* Bess. in Bull. Soc. Nat. Mosc. 9 : 13—15. 1836.——*A. sericea* Web. ex Stechm. var. *nitens* (Stev.) DC., var. *grandiflora* DC. & var. *parviflora* DC. Prodr. 6 : 122—133. 1837.——*A. holosericea* Ledeb.——Fl. Alt. 4 : 63. 1833. *A. czekanovakiana* Traatv. in Act. Hort. Petrop. 5 : 72. 1877.——*A. nitens* (Bess.) Stev. ex Krasch. in Catal. Pl. Herb. Fl. URSS 11 : 50. 1949.——*Absinthium sericeum* Bess. in Bull. Soc. Nat. Mosc. 1 : 237. 1829.——*A. nitens* Bess. l. c. 1 : 235. 1829.——*A. grandiflorum* MB. ex Bess. l. c. 1 : 232. 1829.

China (N.), Mongolia, USSR.

5. **Artemisia kitadakensis** (Kitam.) Hara & Kitam. in Act. Phytotax. Geobot. 5 : 29, tab. 8—1. 1936.——*A. borealis* Pall. var. *wormskjoldii* auct., non Bess. : Nakai in Bot. Mag. Tokyo 37 : 81. 1923.——*A. sericea* Web. ex Stechm. var. *kitadakensis* Kitam. Comp. Jap. 2 : 433. 1930. pro syn.

Japan.

6. **Artemisia aschurbajewii** C. Winkl. Act. Hort. Petrop. 11 : 332. 1892.——*A. sericea* Web. ex Stechm. var. *turkestanica* C. Winkl. Cit. Dat. 203. 1911.

China (N.-W.), USSR (C. Asia).

7. **Artemisia arborescens** Lob. ex Linn. Sp. Pl. 2 : 1118. 1753.——*A. argentea* L'Herit. Sert. Angl. 22. 1788.——*Absinthium arborescens* (Lob. ex Linn.) Bess. in Bull. Soc. Nat. Mosc. 1 : 227. 1829.——*A. argenteum* (L'Herit.) Bess. l. c. 1 : 227. 1829.

Asia Minor, Jugoslavia, Italy, Greece, Spain, Portugal, N. Africa, W. African Islands.

8. **Artemisia absinthium** Linn. Sp. Pl. 848. 1753.——*A. kulbadica* Boiss. & Buhse in Nouv. Mem. Soc. Nat. Mosc. 12 : 120. 1860.——A. inodora Mill. Gard. Dict. ed. 8. 16. 1768.—— *Absinthium vulgare* Lam. Fl. Franc. 2 : 45. 1778.——*A. bipetale* Gilib. Fl. Lituan. 1 : 174. 1782. (*1)

(*1). also syn. *Absinthium officinale* Bort.

China (Xinjiang), N. India, N. Pakistan, Kashmir, Afghanistan, Iran, USSR, Europe Continent, N. Africa, W. African Islands, N. America.

9. **Artemisia gorgonum** Web. in Hook. Niger. Fl. 142. 1841.

W. Africa.

10. **Artemisia canariensis** (Bess.) Less. in Linnaea 6 : 217. 1831.——*Absinthium canariense* Bess. in Bull. Soc. Nat. Mosc. 1 : 229. 1829.

W. African Islands.

11. **Artemisia atlantica** Coss. & Dur. in Bull. Soc. Bot. Franc. 9 : 298. 1862.

S.-W. Europe, N. Africa.

12. **Artemisia schmidtiana** Maxim. in Bull. Acad. Sci. Petersb. 8 : 537. 1872.——*A. sericea* auct., non Web. ex Stechm. : Fr. Schmidt in Mem. Acad. Imp. Sci. St.-Petersb. 7, 12(2) : 150. 1868.——*A. sericea* Web. ex Stechm. var. *schmidtiana* (Maxim.) Kitam. Comp. Jap. 2 : 432. 1940, pro syn.

N. Japan.

13. **Artemisia splendens** Willd. Sp. Pl. 3 : 1822. 1800.——*A. peduncularis* (Stev.) MB. Fl. Taur.-Cauc. 3 : 566. 1819.——*A. pedunculata* Steud. Nom. ed. 2. 72. 1822.——*A. splendens* Willd. var. *peduncularis* (Stev.) DC. Prodr. 6 : 123. 1837.——*Absinthium splendens* (Willd.) Bess. in Bull. Soc.

Nat. Mosc. 1: 238. 1829.——*A. pedunculare* Stev. in Mem. Soc. Nat. Mosc. 4: 63. 1813.

USSR (Caucasus).

14. **Artemisia caucasica** Willd. Sp. Pl. 3: 1823. 1800.——*A. alpina* Pall. ex Willd. 1. c. 3: 1824. 1800. (*2) ——*A. pedemontana* Balb. ex Loisel. Not. 126. 1810.——*A. pumila* Hort. ex Link. Enum. Hort. Berol. 2: 316. 1822.——*A. spicata* Wulf. ex Jacq. Fl. Austr. 5: 46. 240. 1829.——*A. assoana* willk. in Willk. & Lange, Prod. Fl. Hisp. 2: 69. 1865.——*A. chevsurica* Somm. & Lev. in Bull. Soc. Bot. Ital. 130. 1898.——*A. lanulosa* Klok. Fl. RSS Ucr. 11: 313. 1926.——*A. argentea* Klok. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 16: 366. 1954.——*A. grossheimii* Krasch. ex Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17: 410. 1955. p. p.

(*2). also syn. *Artemisia rupestris* Pall., non Linn.

USSR (Caucasus & Europ. reg.) Romania, Bulgaria, Italy, Spain.

15. **Artemisia cuspidata** Krasch. in Act. Inst. Bot. Acad. Sci. URSS 1(3): 349. 1937.

USSR (E. Sibiria).

16. **Artemisia frigida** Willd. Sp. Pl. 3: 1838. 1800. —— *A. jeniseensis* Spreng. Syst. Veg. 3: 486. 1829.——*A. frigida* Willd. var. *typica* Trautv. & var. *intermedia* Trautv. in Bull. Soc. Nat. Mosc. 2: 358. 1866.——*A. frigida* Willd. ssp. *willdenoviana* (Bess.) Krasch., ssp. *gmeliniana* (Bess.) Krasch. & ssp. *parva* Krasch. in Kryl. Fl. Sibir. Occ. 11: 2798. 1949.—— *Absinthium frigidum* (Willd.) Bess., incl. var. *willdenovianum* Bess., var. *geblerianum* Bess., var. *fischerianum* Bess. (ficherianum), var. *gmelinianum* Bess., var. *beibersteinianum* Bess. & var. *stevenianum* Bess. in Bull. Soc. Nat. Mosc. 1: 251—256. 1829.——*A. candidum* Bieb. ex DC. Prodr. 6: 125. 1837, pro syn.

var. 1. *frigida*

China (N. & S.-W.), Mongolia, Iran, Turkey, USSR, N. America.

var. 2. **atropurpurea** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34: 656. 1927.

China (N.-W.).

17. **Artemisia argyrophylla** Ledeb. Fl. Alt. 4: 166. 1833.——*A. frigida* Willd. var. *argyrophylla* Trautv. in Bull. Soc. Nat. Mosc. 2: 258. 1866.——*A. argyrophylla* Ledeb. var. *diversa* Krasch. in Kryl. Fl. Sibir. Occ. 11: 2800. 1949.

var. 1. **argyrophylla**

China (Xinjiang), Mongolia, USSR, (W. Sibiria).

var. 2. **brevis** (Pamp.) Y. R. Ling in Bull. Bot. Res. 8(4): 7. 1988.——*A. brevis* Pamp. in Lav. Inst. Bot. Univ. Cagl. 8: 165. 1938.

China (Xinjiang).

18. **Artemisia maroccana** Coss. in Bull. Soc. Bot. Fr. 22: 61. 1875.

N.-W. Africa (Marocco).

19. **Artemisia camphorata** Vill. Prosp. 31. 1779.——*A. rupestris* auct., non Linn.: Scop. Fl. Carn. ed. 2, 2: 146. 1772.——*A. alba* Turr. Fl. Ital. Prodr. 67. 1780.——*A. lobelii* All. Fl. Pedem. 1: 166. 1785.——*A. humilis* Wulf. in Jacq. Coll. 4: 295. 1791.——*A. saxatilis* Willd. & Kit. in Willd. Sp. Pl. 3: 1830. 1800.——*A. subcanescens* Willd. Enum. Hort Berol. 861. 1809.——*A. columnae* Ten. Ind. Sem. Hort. Neap. 14. 1829.——*A. achillaefofolia* Ten. Fl. Nap. 421. 1831. (*3)——*A. camphorata* Vill. var. *humilis* DC. Prodr. 6: 122. 1837.——*A. suavis* Jord. Ind. Sem. Hort. Div. 18. 1848.——*A. incanescens* Jord. ex Gren. & Godr. Fl. Franc. 2: 127. 1850.——*Absinthium camphoratum* Vill. Delph. 3: 242. 1828.——*A. saxatile* Bess. in Bull. Soc. Nat. Mosc. 1: 231. 1829.——*A. corymbosum* DC. Prodr. 6: 122. 1937, pro syn.

(*3). also syn. *Artemisia biasolettiana* Vis.——*A. camphorata* Vill. var. *virens* Vis.——*A. incanescens* Jord. var. *petiolaris* Willd.——*A. fruticosa* Asso——*Abrotanum cinerascens* Jord.

var. 1 **camphorata**

Czechoslovakia, Hungary, Romania, Jugoslavia, Bulgaria, Austria, Albania. Belgium, France, Italy, Luxembourg, Spain, Greece.

var. 2. **nevadensis** (Bess.) Y. R. Ling comb. nov. ——*A. nevadensis* Bess. apt. spec. Bess, Kew Herb.

C. Europ. (Nevada).

var. 3. **canescens** DC. Prodr. 6 : 122. 1837.

Same distribution as var. 1.

Ser. 3. **Hololeucae** Poljak. Fl. URSS 26 : 507. 1961.

20. **Artemisia hololeuca** MB. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 46. 1834.

USSR (Europe reg.).

Ser. 4. **Rupestres** Poljak. Fl. URSS 26 : 508. 1961.

21. **Artemisia glacialis** Linn. Sp. Pl. ed. 2, 1187. 1763.——*Absinthium congestum* Lam. Fl. Franc. ed. 3, 2 : 46. 1792.——*A. glaciale* Lam. Illustr. 3 : 273, t. 695. 1796.

France, Switzerlands (S. & W. Alps).

22. **Artemisia mutellina** Vill. Prosp. 31. 1779.——*A. umbelliformis* Lam. Encyc. Meth. 1 : 262. 1783.——*A. laxa* Frits. in Kern. Sched. Fl. Aust.-Hung. 6 : 88. 1893.——*Absinthium laxum* Lam. Fl. Franc. ed. 3, 2 : 46. 1792. ——*A. mutellina* Roehl. ex Steud. Nom. ed. 2, 1 : 22. 1840.

Switzerlands, France, Germany, Austria, Hungary, Italy.

23. **Artemisia gabriellae** Br.-Bl. Not. Crit. Fl. Pyren. Or. 233. 1945.

C. Europe (Mts.).

24. **Artemisia rupestris** Linn. Sp. Pl. 841. 1753.——*A. dentata* Willd. Sp. Pl. 3 : 1826. 1800. —— *A. viridifolia* Ledeb. Ind. Sem. Hort. Dorpat. 2. 1832. —— A. *rupestris* Linn. var. *willdenoviana* Bess. in Bull. Soc. Nat. Mosc. 9 : 20. 1836.——*A. rupestris* Linn. var. viridis (Willd. ex Bess.) DC. Prodr. 6 : 124. 1837.——*Absinthium rupestre* (Linn.) Schrenk, Prim. Fl. Salisb. 203. 1792.——*A. viridifolium* (Ledeb.) Bess. in Bull. Soc. Nat. Mosc. 1 : 246. 1829.——*A. viride* Willd. ex Bess. l. c. 1 : 249. 1829——*A. dentatum* Bess. l. c. 7 : 265. 1829.——*A. grandiflorum* auct., non MB. ex Bess. : Roehl. ex Steud. Nom. ed. 2. 1 : 2. 1840.——*A. virgatum* Turcz. ex Ledeb. Fl. Ross. 2(2) : 197. 1844—46, pro syn.

China (N.-W.), Mongolia, USSR (W. Sibiria, Europ. reg.), Germany, Sweden.

Ser. 5. **Xerophgticae** Y. R. Ling in Bull. Bot. Res. 8(4) : 7. 1988.

25. **Artemisia xerophytica** Krasch. in Not. Syst. Herb. Hort. Bot. Petrop. 3 : 24 : 1922.

China (N.-W.), Mongolia.

Ser. 6. **Haussknechtianae** Y. R. Ling, ser. nov.

26. **Artemisia haussknechtii** Boiss. Fl. Or. 3 : 374. 1875.

Iran, Iraq.

Ser. 7. **Rutaefoliae** Poljak. Fl. URSS 26 : 505. 1961.

27. **Artemisia rutaefolia** Steph. ex Spreng. Syst. Veg. 3 : 488. 1826.——*A. turczaninoviana* Bess. in Nuov. Mem. Soc. Nat. Mosc. 3 : 23. 1834.——*A. turczaninowiana* Bess. var. *dasyantha* Schrenk, Enum. Fl. Nov. 50. 1841.——*A. falconeri* C. B. Clarke in Hook. f. Fl. Brit. Ind. 3:320. 1881.——*A. turczaninowiana* Bess. var. *falconeri* (Clarke) O. Fedtsch. in Act. Hort. Petrop. 24 : 332. 1905.

var. 1. **rutaefolia**

China (N.-W. Prov. & Xizang), Mongolia, N. India, N. Pakistan, Nepal, Kas-

hmir, Afghanistan, Iran, USSR (Sibiria & C. Asia).

var. 2. **altaica** (Kryl.) Krasch. in Kryl. Fl. Sibir. Occ. 11 : 2792. 1949. p. p.——*A. turczaninowiana* Bess. var. *altaica* Kryl. Fl. Alt. 3:61. 1904.

China (N.-W.), Mongolia, USSR (Altai).

Ser. 8. **Subviscosae** Poljak. Fl. URSS 26 : 510. 1961.

28. **Artemisia subviscosa** Turcz. ex Bess. in Bull. Soc. Nat. Mosc. 9 : 24. 1836.——*A. capillifolia* Fisch. ex DC. Prodr. 6 : 122. 1837.

USSR (S.-E. Sibiria).

29. **Artemisia altaiensis** Krasch. in Kryl. Fl. Sibir. Occ. 11 : 2792. 1949.——*A. obtusiloba* Ledeb. var. *fruticosa* Ledeb. Fl. Alt. 4 : 69. 1833. ——*A. obtusiloba* auct., non Ledeb. : Kryl. Fl. Alt. 3 : 682. 1904.

W. Mongolia, USSR (Altai).

Ser. 9. **Obtusilobae** Poljak. Fl. URSS 26 : 509. 1961.

30. **Artemisia obtusiloba** Ledeb. Fl. Alt. 4 : 68. 1833, incl. var. gracilis Ledeb.——*A. obtusiloba* Ledeb. var. *glabra* Ledeb. Fl. Alt. 4 : 70. 1833. p. p.

China (N. W.), Mongolia, USSR (W. Sibiria & C. Asia).

Ser. 10. **Lagocephalae** Kitam. in Act. Phytotax. Geobot. 8 : 64. 1939. ——*Artemisia*, Ser. *crossostephioides* Poljak. Fl. URSS 26 : 504. 1961.

31. **Artemisia lagocephala** (Fisch. ex Bess.) DC. Prodr. 6 : 122. 1837. ——*A. kruhsiana* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 22. 1834. p. p. ——*A. chinensis* Bess. in Linnaea 15 : 92. 1841.——*A. besseriana* Ledeb. Fl. Ross. 2(2) : 590. 1844—46, incl. var. *triloba* Ledeb. & var. *integrifolia* Ledeb. ——*A. lagocephala* (Fisch. ex Bess.) DC. var. *kruhsiana* (Bess.) Glehn ex Maxim. in Bull. Acad. Sci. Petersb. 8:531. 1872.——*A. lagocephala* (Fisch. ex Bess.) DC. var. *besseriana* (Bess.) Pamp. in Nouv. Giorn. Bot. Ital.

n. s. 34 : 676. 1927, incl. f. *integrifolia* (Ledeb.) Pamp. & f. *triloba* (Ledeb.) Pamp.——*Absinthium lagocephalum* Fisch. ex Bess. in Bull. Soc. Nat. Mosc. 1 : 233. 1829.——*A. chinense* Bess. ex DC. Prodr. 6 : 118. 1837, pro syn.

var. 1. **lagocephala**

China (N.-E.), Korea, USSR (E.).

var. 2. **lithophila** (Turcz. ex DC.) Y. R. Ling comb. nov. ——*A. lithophila* Turcz. ex DC. Prodr. 6 : 122. 1837.

USSR (E.).

Ser. 11. **Disjunctae** Y. R. Ling in Bull. Bot. Res. 8(4) : 8. 1988.

32. **Artemisia disjuncta** Krasch. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 9 : 162. 1946.

China (Xinjiang), Mongolia.

33. **Artemisia niitakayamensis** Hayata in Bot. Mag. Tokyo 20 : 16. 1906.

China (Taiwan).

34. **Arteisia nitida** Bert. Mant. Pl. Fl. Alp. Apuan. 53. 1832.

Austria, Italy, Jugoslavia (Mts.).

Ser. 12. **Minores** Y. R. Ling in Bull. Bot. Res. 8(4) : 9. 1988.

35. **Artemisia minor** Jacq. ex Bess. in Bull. Soc. Nat. Mosc. 9 : 22. 1836.——*A. melanolepis* Boiss. & Key. in Boiss. Diagn. ser. 1(2), 11 : 27. 1849.——*A. sieversiana* Ehrh. ex Willd. var. *tibetica* C. B. Clarke Comp. Ind. 165. 1876.——*A. tibetica* Hook. f. & Thoms. ex Hook. f. Fl. Brit. 3 : 329. 1881. pro syn.

China (alpines in N.-W. & S.-W.), N. India, N. Pakistan, Kashmir, Iran.

36. **Artemisia younghusbandii** J. R. Drumm. ex Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 708. 1927.

China (Xizang).

Ser. 13. **Stracheyianae** R. Y. Ling in Bull. Bot. Res. 8(4) : 9. 1988.

37. **Artemisia stracheyi** Hook. f. et Thoms. in C. B. Clarke, Comp. Ind. 164. 1876.

China (Xizang), Kashmir, N. Pakistan.

Ser. 14. **Anethifoliae** Poljak. Fl. URSS 26 : 522. 1961.

38. **Artemisia anethifolia** Web. ex Stechm. Dissert. Artem. 29. 1775. ——*A. multicaulis* Ledeb. Fl. Alt. 4 : 60, tab. 458. 1833. ——*A. anethifolia* Web. ex Stechm. var. *multicaulis* Bess. in Bull. Soc. Nat. Mosc. 9 : 31. 1836. ——*A. anethifolia* Web. ex Stechm. var. *stelleriana* (Bess.) DC. & var. *erectiflora* DC. Prodr. 6 : 126. 1837. ——*A. nakai* Pamp. l. c. 34 : 682. 1927. p. p., quoad. pl. Sin. ——*Absinthium divaricatum* Fisch. ex Bess. in Bull. Soc. Nat. Mosc. 1 : 263. 1829, incl. var. *stellerianum* Bess.

China (N.), Mongolia, USSR (Sibiria).

39. **Artemisia fauriei** Nakai in Bot. Mag. Tokyo 29 : 7. 1915. p. p., quoad spec. Faurie n. 361. Typus! Paris Mus. Herb. ——*A. fukudo* Makino var. *mokpensis* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 656. 1927. ——*A. nakai* Pamp. l. c. 34 : 682. 1927. p. p. ——*A. haichowensis* Chang in Bull. Fan Mem. Inst. Biol. 7 : 158. 1936.

China (sea side of Hobei, Shandong & Jiangsu), Korea, Japan.

40. **Artemisia anethoides** Mattf. in Fedde, Rep. Sp. Nov. 22 : 249. 1926. ——*A. anethifolia* Web. ex Stechm. var. *anethoides* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 636. 1927. ——A. *korotkyi* Krasch. in Catal. Pl. Herb. Fl. URSS 10 : 73. 1936. ——*A. anethifolia* Web. ex Stechm. var. *korotkyi* (Krasch.) Poljak. Fl. URSS 26 : 523. 1961.

China (N., N.-E., N.-W. Prov., N. Sichuna & N. Honan), Mongolia, USSR (E. Sibiria).

Ser. 15. **Succulentoides** Y. R. Ling in Bull. Bot. Res. 8(4): 10. 1988.

41. **Artemisia succulentoides** Ling et Y. R. Ling in Act. Phytotax. Sin. 18(4): 504, fig. 1. 1980.

China (Xizang).

Ser. 16. **Persicae** Poljak. Fl. URSS 26: 506. 1961.

42. **Artemisia persica** Boiss. Diagn. ser. 1, 1(6): 91. 1845.——*A. togusbulakensis* Fedtsch. in Trav. Mus. Bot. Acad. Sci. Petersb. 1: 143. 1902.

var. 1. **persica**

China (Xizang & Qinghai), N. Pakistan, Kashmir, Afghanistan, Iran, USSR.

var. 2. **subspinescens** (Boiss.) Boiss. Fl. Or. 3: 374. 1845.——*A. subspinescens* Boiss. Diagn. ser. 1, 1(6): 91. 1845.

China (Xizang)).

43. **Artemisia chitachensis** Coss. ex Batt. & Trab. Fl. Alger. 468. 1890. nomem——*A. alba* Turr. ssp. *chitachensis* Maire in Bull. Soc. Hist. Nat. Afr. Nord. 19: 56. 1928 (descr.).

N. Africa.

44. **Artemisia cantabrica** (Lainz) Laina in Biol. Inst. Estud. Austr. Suppl. Cienc. 15: 40. 1970. (*4)

(*4). also syn. *Artemisia chamaemelifolia* Vill. ssp. *cantabrica* Lainz ——*A. chamaemelifolia* Rollan, p. p.

Spain (N.-W.).

Sect. 2. **Abrotanum** Bess. in Bull. Soc. Nat. Mosc. 1 : 222. 1829.——*Abrotanum* Tourn. Inst. Herb. 1 : 459. 1700.——*Artemisia*, Subgen. *Artemisia* Less. Syn. Gen. Comp. 264. 1832. p. p.——Subgen. *Abrotanum* (Bess.) Peterm. Deutschl. Fl. 294. 1849.

Ser. 1. **Novegicae** Rydb. N. Amer. Fl. 34(3) : 261. 1916.——*Artemisia*, Sect. *Polyanthae* Krasch. in Mat. Hist. Fl. Veg. 2 : 130. 1946.

45. **Artemisia arctica** Less. in Linnaea 4 : 213. 1831.——*A. richadsoniana* Hook. Fl. Bor.-Amer. 1(6) : 323. 1833.——*A. longipedunculata* Bess. in Nouv. Mem. Soc. Nat. Mosc. 33 : 177. 1834.——*A. chamissoniana* Bess. l. c. 3 : 77. 1834.——*A. montana* Schlecht. ex Ledeb. Fl. Ross. 2(2) : 591. 1846, pro syn.——*A. czekanowskiana* auct., non Trautv. : Nakai Veg. Mt. Daisetsu 72. 1930.——*A. subarctica* Krasch. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS. 9 : 176. 1946.——*A. arctica* Less. var. *sachalinensis* Fr. Schmidt in Mem. Acad. Imp. Sci. St.-Petersb. 7, 12(2) : 150. 1868.——*A. arctica* Less. var. ochotensis (Bess.) Komar. Cit. Dat. 151. 1961.——*A. arctica* Less. ssp. *subarctica* (Krasch.) Hult. in Nytt. Mag. Bot. 3 : 67. 1954.——*A. arctica* Less. var. *beringensis* Hult. l. c. 3 : 67. 1954.——*A. novegica* Fries. var. *pacifica* A. Gray, Syn. Fl. N. Amer. 1 : 371. 1884.——*A. norvegica* Fries. var. *villosa* Koidz. in Bot. Mag. Tokyo 32 : 63. 1918.

N. Japan, USSR (N. & E.), N. America.

46. **Artemisia punctigera** Krasch. ex Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17 : 408. 1955.——*A. norvegica* auct., non Fries : Sugaw. Ill. Fl. Sachal. 1813. 1940.

USSR (E.).

47. **Artemisia bejdemaniae** Leonova in Nov. Syst. Pl. Vasc. 6 : 190. 1969.

USSR (N.-E.).

48. **Artemisia narvegica** Fries. Nov. Fl. Suec. ed. 1. 56, tab. 3. 1817.——*A. rupestris* auct., non Linn. : O. F. Muell. Fl. Danica ed. 4. tab.

801. 1780.——*A. norvegica* Fries. var. *uralensis* Rupr. in Beitr. Pflanzenk. Russ. Reich. 8 : 64. 1850.——*A. norvegica* Fries. var. *villosula* Trautv. ex Korsh. in Mem. Acad. Sci. Petersb. 8, 7(1) : 221. 1898.—— *A. ruprechtii* Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17 : 409. 1955.

USSR (N.-W.), C. Norway, N. United Kingdom.

49. **Artemisia pedunculosa** Miq. in Ann. Mus Bot. Lugd.-Bat. 2 : 185. 1866.

Japan.

50. **Artemisia eriantha** Ten. Ind. Sem. Hort. Neap. 14. 1829.——*A. baumgartenii* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 73. 1834.——*A. petrosa* Jan ex DC. Prodr. 6 : 118. 1837, pro syn.——*A. villarsii* Gren. & Godr. Fl. Franc. 2 : 130. 1851.(＊5)——*Absinthium petrosum* Baumg. Enum. Stirp. Transs. 3 : 90. 1816.

(＊5). also syn. *Artemisia villarsii* Gren. & Godr. ssp. *carpatica* Borza.

Poland, Czechoslovakia, Romania, Bulgaria, Jugoslavia, Albania, Italy, Greece, France, Spain.

Ser. 2. **Caespitosae** Y. R. Ling in Bull. Bot. Res. 8(4) : 19. 1988.

51. **Artemisia granatensis** Boiss. in Biblioth. Univ. Geneve ser. 2, 13 : 409. 1838.

Spain.

52. **Artemisia oelandica** (Bess.) Krasch. in Mat. Hist. Fl. Veg. 2 : 126. 1946.——*A. rupestris* Linn. var. *linnaeana* Bess. in Bull. Soc. Nat. Mosc. 9 : 21. 1836. ——*A. rupestris* Linn. var. *oelandica* DC. Prodr. 6 : 124. 1837.——*Absinthium rupestre* Schrenk var. *oelandicum* Bess. l. c. 1 : 248. 1829.

Sweden.

53. **Artemisia caespitosa** Ledeb. Fl. Alt. 4 : 80. 1833.——*A. frigidioides*

H. C. Fu & Z. Y. Shu, Fl. Intramong. 6 : 109, tab. 38. 1—6., add. 326. 1983 (Sect. Dracunculus).

China (N. Xinjiang & N.-W. Nei Monggol), W. Mongolia, USSR (S.-W. Sibiria).

54. **Artemisia austriaca** Jacq. in Murr. Syst. 744. 1784.——*A. repens* Pall. ex Willd. Sp. Pl. 3 : 1840. 1800.——*A. orientalis* Willd. l. c. 3 : 1836. 1800. p. p.——*A. nivea* Redow. ex Willd. Enum. Hort. Berol. 2 : 863. 1813.——*A. frigida* auct., non Willd. : Eichw. Casp. Cac. 31. 1833. ——*A. frigidae* Willd. var. foliis magis dissectis Ledeb. Fl. Alt. 4 : 66. 1833.——*A. austriaca* Jacq. var. *jacquiniana* Bess. & var. *willdenoviana* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 49. 1834.——*A. austriaca* Jacq. var. *orientalis* Fisch. ex DC. Prodr. 6 : 112. 1837.——*A. austriaca* Jacq. var. *neglecta* Krasch. in Kryl. Fl. Sibir. Occ. 11 : 2800. 1949.——*Absinthium trifidum* Schrenk, Baier. Fl. 2 : 362. 1789.

China (Xinjiang & W. Nei Monggol), Iran, USSR (Sibiria & C. Asia), Poland, Czechoslovakia, Romania, Bulgaria, Hungary, Austria, Germany, France.

55. **Artemisia insipida** Vill. Prosp. Pl. Dauph. 32. 1779.

Germany, France.

Ser. 3. **Atratae** Krasch. in Mat. Hist. Fl. Veg. 2 : 126. 1946.—— *Artemisia*, Ser. *Spicatae* Wendelb. in Biblioth. Bot. 125 : 49. 1960.

56. **Artemisia genipi** Web. ex Stechm. Dissert. Artem. 17. 1775.—— *A. spicata* Wulf. ex Jacq. Fl. Austr. 5 : 46. 240. 1829. p. p.——*Absinthium spicatum* Baumg. Enum. Stirp. Transs. 3 : 90. 1816.

var. 1. **genipi**

Austria, Germany, Italy.

var. 2. **nivalis** Br.-Bl. Verh. Schweiz. Naturf. Ges. 1919 : 117. 1920.

Switzerlands.

57. **Artemisia atrata** Lam. Encycl. Meth. 1 : 263. 1783.——*A. spicata* Wulf. ex Jacq. Fl. Austr. 5 : 46, 240. 1829. p. p.——*A. tanacetifolia* auct., non Linn. : All. Fl. Pedem. 1 : 166. 1785.——*A. insipida* auct. non Vill. : Godr. in Gren. & Godr. Fl. Franc. 2 : 129. 1850.——*A. godronii* Bonn. Fl. Comp. Franc. Suis. & Belg. 5 : 1921. p. p.

France, Jugoslavia, Italy.

Ser. 4. **Angaro-ochotenses** Krasch. in Mat. Hist. Fl. Veg. 2 : 143. 1946.

58. **Artemisia lagopus** Fisch. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 9. 1834.——*A. meyeriana* Bess. in Linnea 15 : 96. 1841.

USSR (E).

59. **Artemisia triniana** Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 67. 1834.

USSR (N.).

Ser. 5. **Ponticae** (Rydb.) Poljak. Fl. URSS 26 : 456. 1961.——*Artemisia*, Sect. *Ponticae* Rydb. N. Amer. Fl. 34(3) : 280. 1916.

60. **Artemisia macantha** Ledeb. in. Mem. Acad. Sci. Petersb. 5 : 573. 1815.——*A. gmelinii* Web. ex Stechm. var. *turtschaninoviana* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 87. 1834. p. p., excl. syn.——*A. sacrorum* Ledeb. var. *intermedia* Maxim. Diagn. 11 : 529. 1872. p. p., excl. syn., non Ledeb.——*A. macrantha* Ledeb. var. *turtschaninoviana* (Bess.) Pamp. & var. *occidentalis* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 677—678. 1927.

China (N.-W.), N.-W. Mongolia, N. India, USSR (Sibiria).

61. **Artemisia pontica** Linn. Sp. Pl. 847. 1753.——*A. balsamita* Willd. Enum. Hort. Borel. Suppl. 57. 1822.——*A. altaica* Desf. Cat. Hort. Paris 160. 1829. (*6)——*Absinthium ponticum* Garsau. Fig. Pl. Anim. Med. t. 122. 1764.——*A. tenuifolium* Gater. Descr. Pl. Montaub. 144. 1879.

(*6). also syn. *Artemisia abrotanoides* Vis.

China (N.-W. Prov. & Xizang), USSR (C. & W.), Poland, Czechoslovakia, Romania, Jugoslavia, Hungary, Austria, Bulgaria, France, Spain, Italy, Greece.

62. **Artemisia pseudo-pontica** Schur Enum. Pl. Transs. 323. 1866. (*7)
(*7). also syn. *Artemisia austriaco-pontica* Schur Serrt.

Romania, Czechoslovakia.

63. **Artemisia polybotryoidea** Y. R. Ling in Bull. Bot. Res. 5(2): 1, fig. 9. 1985.

China (N.-W.).

64. **Artemisia aksaiensis** Y. R. Ling in Bull. Bot. Res. 5(2): 3, fig. 10. 1985.

China (W. Gansu).

65. **Artemisia chamaemelifolia** Vill. Pros. 32 & Fl. Delph. 3: 250. 1785.——*A. stechmanniana* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3: 35. 1834, incl. var. *armeniaca* Bess.——*A. lobelii* All. ex Bess. l. c. 3: 32. 1834.——*A. chamaemelifolia* Vill. var. *armeniaca* (Bess.) Hoh. Enum. Talusch. 57. 1838.

Iran, USSR (Caucasus), Bulgaria, France, Spain, Italy.

66. **Artemisia molinieri** Quez., Barb. & Lois. in Bull. Soc. Bot. France 113: 524. 1967.

France.

Ser. 6. **Pectinatae** Kitam. in Act. Phytotax. Geobot. 8: 65. 1939.——*Artemisia*, Ser. *Vestitae* Poljak. Fl. URSS 26: 464. 1961.

67. **Artemisia afra** Jacq. Hort. Schoenb. 4: 34, t. 467. 1804.

Africa (E. & S.).

68. **Artemisia sacrorum** Ledeb. in Mem. Acad. Sci. Petersb. 5 : 571. 1805.——*A. annua* auct., non Linn.: Pall. Reise 2 : 523. 1773.——*A. sacrorum* Ledeb. var. *latiloba* Ledeb., var. *intermedia* Ledeb. & var. *minor* Ledeb. Fl. Alt. 4 : 72. 1833. & Fl. Ross. 2(2) : 578. 1844-46.——*A. gmelinii* Web. ex Stechm. var. *legitima* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 26, 87. 1834. p. p.——*A. sacrorum* Ledeb. var. *laciniaeformis* Nakai in Bot. Mag. Tokyo 26 : 101. 1912.——*A. sacrorum* Ledeb. var. *latiloba* Ledeb. f. *incana* Pamp. & f. *intermedia* (Ledeb.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 686, 688. 1927.——*A. iwayomogi* Kitam. in Act. Phytotax. Geobot. 7 : 65. 1938.——*A. sacrorum* Ledeb. ssp. *laxiflora* (Nakai) Kitag. Lineam. Fl. Mansh. 431. 1939.——*A. vestita* auct., quoad pl. Asiatic. Or., non Wall. ex Bess.: Kitag. Lineam. Fl. Mansh. 434. 1939, incl. var. *discolor* (Komar.) Kitag.——*A. gmelinii* Web. ex Stechm. var. *intermedia* (Ledeb.) Krasch. in Kryl. Fl. Sibir. Occ. 11 : 2790. 1949.——*A. gmelinii* auct., non Web. ex Stechm.: Poljak. Fl. URSS 26 : 464. 1961. p. p.

var. 1. **sacrorum**

China, Mongolia, Korea, Japan, N. Pakistan, N. India, Nepal, Kashmir, Afghanistan, USSR (Sibria & C. Asia).

var 2. **messerschmidtiana** (Bess.) Y. R. Ling in Bull. Bot. Res. 8(4) : 13. 1988.——*A. messerschmidtiana* Bess. l. c. 3 : 27. 1834, incl. var. *viridis* Bess.——*A. gmelinii* Web. ex Stechm. var. *messerschmidtiana* (Bess.) Poljak. Fl. URSS 26 : 464. 1961.

China, Mongolia, Korea, Japan, Afghanistan, N. Pakistan, N. India, USSR (C. Asia).

var. 3. **incana** (Bess.) Y. R. Ling in Bull. Bot. Res. 8(4) : 13. 1988. ——*A. messerschmidtiana* Bess. var. *incana* Bess. l. c. 3 : 27. 1834.——*A. sacrorum* Ledeb. var. *minor* Ledeb. f. *discolor* Komar. & f. *vestita* Komar. Fl. Mansh. 3(2) : 664. 1907.——*A. gmelinii* Web. ex Stechm. var. *discolor* (Komar.) Nakai & var. *vestita* (Komar.) Nakai Fl. Kor. 2 : 31. 1911.——*A. sacrorum* Ledeb. var. *minor* Ledeb. f. *wallichiana* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 3 : 692. 1927, cum sf. vestita Pamp.——*A. sacrorm* Ledeb.

ssp. *manshurica* Kitam. in Act. Phytotax. Geobot. 2 : 66. 1938.——*A. vestita* auct., non Wall. ex Bess.: Kitag. Lineam. Fl. Mansh. 434. 1939, incl. var. *discolor* (*Komar.*) Kitag.

China, Mongolia, Korea, Japan.

69. **Artemisia gmelinii** Web. ex Stechm. Dissert. Artem. 30. 1775.——*A. sacrorum* Ledeb. var. *minor* Ledeb. Fl. Alt. 4 : 72. 1833.——*A. santolinaefolia* Turcz. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 87. 1834.——*A. stechmanniana* Bess. var. *sibirica* Bess. l. c. 3 : 35. 1834. p. p.——*A. gmelinii* Web. ex Stechm. var. *biebersteiniana* Bess., var. *legitima* Bess. & var. *turtschaninoviana* Bess. l. c. 3 : 26, 87. 1834.——*A. sacrorum* auct., non Ledeb.: Hook. f. Fl. Brit. Ind. 3 : 326. 1881.——*A. turtschaninoviana* auct., non Bess.: Krasn. Enum. Pl. Tian Shan Or. 68. 1887.——*A. sacrorum* Ledeb. var. *santolinaefolia* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 693. 1927, incl. forms & subforms.

China (N.-W. & S.-W.), Mongolia, N. India, N. Pakistan, Nepal, USSR (Sibiria & C. Asia).

70. **Artemisia vestita** Wall. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 25. 1834.——*A. laciniata* auct., non Willd.: C. B. Clarke, Comp. Ind. 161. 1876.——*A. potentilaefolia* auct., non Fisch. ex Spreng.: Levl. in Fedde, Rep. Sp. Nov. 11 : 303. 1912. (*A. potentilifolia*).

China (S.-W.), N. India, N. Pakistan, Nepal, Kashmir.

71. **Artemisia baimaensis** Y. R. Ling & Z. C. Zhuo in Bull. Bot. Res. 4(2) : 16, fig. 2. 1984.

China (Qinghai).

72. **Artemisia medioxima** Krarch. ex Poliak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17 : 405. 1955.——*A. latifolia* auct., non Ledeb.: Maxim. Prim. Fl. Amur. 159. 1859. p. p.

China (N.-E.), USSR (E.).

73. **Artemisia freyniana** (Pamp.) Krasch. in Catal. Pl. Herb. Fl. URSS 11 : 42. 1949.——*A. sacrorum* Ledeb. var. *viridis* Mattf. f. *minor* Freyn in Oest. Bot. Zeitschr. 5 : 345. 1895.——*A. sacrorum* Ledeb. var. *latiloba* Ledeb. f. *freyniana* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 688. 1927.

China (N.), Mongolia, USSR (E.).

Ser. 74. **Latifoliae** Krasch. in Mat. Hist. Fl. Veg. 2 : 124. 1946.——*Artemisia*, Ser. *Armeniacae* Wendelb. in Biblioth. Bot. 125 : 49. 1960.

74. **Artemisia maximowicziana** (F. Schum.) Krasch. ex Poljak. in Not. Syst. Inst. Bot. Acad. Sci. URSS 17 : 403. 1955.——*A. latifolia* Ledeb. var. *maximoviczii* F. Schum. in Mem. Acad. Sci. Petersb. 7(12) : 49. 1868.——*A. laciniata* Willd. var. *latifolia* Maxim. f. *maximowiczii* Fr. Schmidt ex Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 674. 1927.

China (N.-E.), USSR (E.).

75. **Artemisia latifolia** Ledeb. in Mem. Acad. Sci. Petersb. 5 : 569. 1815.——*A. laciniata* Willd. var. *glabriuscula* Ledeb. Fl. Alt. 4 : 75. 1833. p. p.——*A. punctata* Bess. var. *stricta* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 43. 1834.——*A. krascheninnikoviana* Bess. l. c. 3 : 41. 1834. p. p.——*A. laciniata* Willd. var. *latifolia* (Ledeb.) Maxim. in Bull. Acad. Sci. Petersb. 8 : 530. 1872.——*A. tanacetifolia* Linn. var. *laxa* Kitam. in Act. Phytotax. Geobot. 12 : 11. 1943.

China (N.-E.), N. Korea, Mongolia, USSR (Sibiria).

76. **Artemisia armeniaca** Lam. Encycl. Meth. 1 : 263. 1783.——*A. canescens* Willd. Sp. Pl. 3 : 1843. 1800.——*A. macrobotrys* Ledeb. Fl. Alt. 4 : 73. 1833.——*A. potentillifolia* Fisch. ex Spreng. Syst. Veg. 3 : 494. 1826.

Syria, Iraq, Turkey, Iran, USSR (W. & C.), Hungry, Romania.

77. **Artemisia remotiloba** Krasch. ex Poljak. in Not. Syst. Inst. Bot. Acad. Sci. URSS 17 : 404. 1955.

USSR (E. Sibiria).

Ser. 8. **Laciniatae** Kitam. in Act. Phytotax. Geobot. 8 : 65. 1939.——*Artemisia*, Ser. *Tanacetifoliae* Krasch. in Mat. Hist. Fl. Veg. 2 : 125. 1946.——Ser. *Lanceolatae* Poljak. Fl. URSS 26 : 478. 1961.

78. **Artemisia phaeolepis** Krasch. in Animad. Syst. Herb. Univ. Tomsk. 1(2) : 1. 1949.——*A. laciniata* Willd. var. *turtschaninoviana* Bess. in Bull. Soc. Nat. Mosc. 9 : 48. 1836.——*A. laciniata* Willd. var. *turczaninovii* DC. Prodr. 6 : 111. 1837.——*A. laciniata* Willd. var. *glabriuscula* Ledeb. f. *marginata* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 637. 1927. p. p.

var. 1. **phaeolepis**

China (N.-W.), Mongolia, USSR (W. Sibiria).

var. 2. **tomentosa** (Kryl.) Krasch. in Kryl. Fl. Sibir. Occ. 11 : 2809. 1949.——*A. laciniata* Willd. f. *tomentosa* Kryl. Fl. Alt. 3 : 646. 1904.

USSR (Sibiria).

79. **Artemisia tanacetifolia** Linn. Sp. Pl. 848. 1753.——*A. laciniata* Willd. Sp. Pl. 3 : 1843. 1800.——*A. laciniata* Willd. var. *glabriuscula* Ledeb. Fl. Alt. 4 : 75. 1833.——*A. macrobotrys* Ledeb. Fl. Alt. 4 : 73. 1833. p. p.——*A. krascheninnikoviana* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 41. 1834. p. p.——*A. punctata* Bess. l. c. 3 : 43. 1834. p. p.(＊8)——*A. laciniata* Willd. f. *paniculata* Kryl. Fl. Alt. 3 : 646. 1904.——*A. laciniata* Willd. var. *latifolia* Mattf. in Fedde, Rep. Sp. Nov. 22 : 246. 1926, non Ledeb.——*A. sacrorum* Ledeb. var. *major* Ledeb. f. *japonica* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 695. 1927.——*A. serreana* Pamp. l. c. 39 : 32. 1933.——*A. orthobotrys* Kitag. in Rep. Inst. Sci. Res. Manch. 6 : 123. 1942.——*Absinthium tanacetifolium* Gaertn. Fruct. 2 : 393. 1791.

(＊8). also syn. *Artemisia mertensiana* Wallr.

China (N.), Mongolia, USSR (C. & W.), Czechoslovakia, Austria, Germany, N. America (Alaska).

80. **Artemisia laciniatiformis** Komar. Fl. Kamtch. 3 : 153. 1930.

var. 1. **laciniatiformis**

USSR (N., C. & E.), N. America.

var. 2. **taimyrensis** (Krasch.) Y. R. Ling comb. nov.——*A. laciniatiformis* Komar. ssp. *taimyrensis* Krasch. in Kryl. Fl. Sibir. Occ. 11 : 2763. 1949.

USSR (N.).

81. **Artemisia transbaicalensis** Leonova in Nov. Syst. Pl. Vasc. 6 : 195. 1969.

USSR (Sibiria).

82. **Artemisia macrorhiza** Turcz. in Bull. Soc. Nat. Mosc. 13 : 73. 1840.

USSR (E. Sibiria).

Ser. 9. **Annuae** (Rydb.) Poljak. Fl. URSS 26 : 488. 1961.——*Artemisia*, Sect. *Annuae* Rydb. N. Amer. Fl. 34(3) : 259. 1916.

83. **Artemisia carvifolia** Buch.-Ham. in Roxb. Hort. Beng. 61. 1814. nom. nud., Fl. Ind. 3 : 422. 1832. (*A. caruifolia* Bess.)——*A. abrotanum* auct., non Linn.: Thunb. Fl. Jap. 309. 1784.——*A. apiacea* Hance in Walp. Ann. Bot. Syst. 2 : 895. 1852.——*A. thunbergiana* Maxim. in Bull. Acad. Sci. Petersb. 8 : 528. 1872.——*A. carvifolia* Buch.-Ham. ex Roxb. var. *apiacea* (Hance) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 648. 1927.

var. 1. **carvifolia**

China (E., C. & S.), Korea, Japan, Burma, Indo-China, N. India, Nepal.

var. 2. **schochii** (Mattf.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 649. 1927. ——*A. schochii* Mattf. in Fedde, Rep. Sp. Nov. 22 : 245. 1926. ——*A. apiacea* Hance var. *schochii* (Mattf.) Hand.-Mazz. Symb. Sin. 7(4) : 1115. 1936.

China (S.).

84. **Artemisia annua** Linn. Sp. Pl. 847. 1753. ——*A. wadei* Edgew. in Trans. Linn. Soc. Bot. 20: 72. 1846.——*A. stewartii* C. B. Clarke, Comp. Ind. 163. 1876. ——*A. chamomilla* C. Winkl. in Act. Hort. Petrop. 10: 87. 1887.

Widely distribute in N. Hemisphere and N. Africa.

Ser. 10. **Hedinianae** Y. R. Ling in Bull. Bot. Res. 8(4): 17. 1988.

85. **Artemisia hedinii** Ostenf. & Pauls. in S. Hedin, S. Tibet 6(3): 41, pl. 3, fig. 1. 1922.——*A. biennis* auct., non Willd. quoad pl. S.-W. As.: Hook. f. Fl. Brit. Ind. 3: 324. 1881.

China (N.-W. & S.-W.), N. India, Kashmir, USSR (Tadzh.).

Ser. 11. **Shangnanenses** Y. R. Ling in Bull. Bot. Res. 8(4): 16. 1988.

86. **Artemisia shangnanensis** Ling & Y. R. Ling in Bull. Bot. Res. 4(2): 14, fig. 1. 1984.

China (C.).

87. **Artemisia pallens** Wall. ex Bess. in Nuov. Mem. Soc. Nat. Mosc. 3: 85. 1834.

N.-E. India, N. Thailand.

Ser. 12. **Sinanenses** Y. R. Ling ser. nov.

88. **Artemisia sinanensis** Yabe in Bot. Mag. Tokyo 17: 26. 1903.

Japan.

Ser. 13. **Tournefortianae** Y. R. Ling in Bull. Bot. Res. 8(4): 18. 1988.

89. **Artemisia abyssinica** Sch.-Bip. in A. Rich. Tent. Fl. Abyss. 1: 420. 1847.

Saudi Arab, Yemen, N. & E. Africa.

90. **Artemisia tournefortiana** Reichb. Ic. Exot. Cent. 1 : 6, tab. 5. 1827. ——*A. pinnatifida* Jacq. ex DC. Prodr. 6 : 120. 1837.——*A. annua* auct., non Linn. : Trautv. Enum. Pl. n. 616. 1841.

China (N.-W & S.-W.), Mongolia, N. Pakistan, Kashmir, Afghanistan, Iran, USSR (C. Asia).

91. **Artemisia biennis** Willd. Sp. Pl. 3 : 1842. 1800.

N. United Kingdom, Netherlands, N. America.

Ser. 14. **Abrotanum**——*Artemisia*, Sect. *Ponticae* Rydb. N. Amer. Fl. 34 (3) : 280. 1916. p. p.

92. **Artemisia tsugitakaensis** (Kitam.) Ling & Y. R. Ling in Bull. Bot. Res. 2(2) : 43. 1982.——*A. niitakayamensis* Hayata var. *tsugitakaensis* Kitam. in Act. Phytotax. Geobot. 9 : 32. 1940.

China (Taiwan).

93. **Artemisia abrotanum** Linn. Sp. Pl. 845. 1753.——*A. paniculata* auct., non Bess. : Lam. Encycl. Meth. 1 : 265. 1783. ——A. procera Willd. Sp. Pl. 3 : 1818. 1800.——*A.* herbacea Willd. l. c. 3 : 1828. 1800.——*A. naronitana* Vis. ex DC. Prodr. 6 : 108. 1837.——*A. proceraeformis* Krasch in Fl. S.-E. reg. USSR 6 : 360. 1936. (*9)

(*9). also syn. *Artemisia elatior* Klok.

USSR (C. & W.), Czechoslovakia, Jugoslavia, Romania, Hungary, Austria, Germany, France, Switzerlands, Spain, Italy.

94. **Artemiria adamsii** Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 27. 1834. ——*A. tenuifolia* Adam. ex DC. Prodr. 6 : 107. 1837, pro syn.——*A. depressa* Turcz. ex DC. l. c. 6 : 107. 1837, pro syn.

China (N.-E.), Mongolia (E.).

95. **Artemisia olchonensis** Leonova in Nov. Syst. Pl. Vasc. 6 : 193. 1969.

USSR (E. Sibira).

96. **Artemisia glabella** Kar. & Kir. in Bull. Soc. Nat. Mosc. 14 : 441. 1841.——*A. obtusiloba* Ledeb. var. *glabra* Ledeb. Fl. Alt. 4 : 70. 1833.——*A. obtusiloba* Ledeb. var. *glabella* (Kar. & Kir.) Poljak. Fl. URSS 26 : 510. 1961.

China (N.-W.), Mongolia, URSS (W. Sibiria & C. Asia).

97. **Artemisia martzanovii** Krasch. ex Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 16 : 407. 1955.

USSR (S.-E. Sibiria).

98. **Artemisia dalai-lamae** Krasch. in Not. Syst. Hort. Petrop. 3 : 17. 1922.

China (N.-W.).

Ser. 15. **Reptantes** Y. R. Ling ser. nov.

99. **Artemisia reptans** Chr. Sm. ex Link in Buch, Beschr. Canar. Ins. 148. 1825.——*A. hispanica* Lam. Encycl. Meth. 1 : 263. 1783. p. p.

S. -W. Europe, N.-W. Africa (Marocco), Canary Islands.

100. **Artemisia hispanica** Lam. Encycl. Meth. 1 : 263. 1783.——*A. cernuilora* Duf. ex Willk. & Lange, Prodr. Fl. Hisp. 2 : 71. 1865.—— *A. seriphium* Pourr. ex Willk. & Lange, l. c. 2 : 71. 1865.

Spain.

101. **Artemisia pancicii** (Janka) Ronnig. in Samen-Tauschl. Bot. Gart. Univ. Wien. 5.: 1938.——*Chrysanthemum pancicii* Janka in Oesterr. Bot. Zeitschr. 31 : 304. 1881.

Austria, Czechoslovakia, Jugoslavia.

102. **Artemisia filiformilobulata** Y. R. Ling & H. S. Puri in Guihaia 5 (1) : 1. 1985.

N. India.

Ser. 16. **Brachylobae** Y. R. Ling in Bull. Bot. Res. 8(4) : 20. 1988.

103. **Artemisia brachyloba** Franch. Pl. David. 1 : 171. 1844.——*A. licentii* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 676. 1927.——*A. adamsii* auct., non Bess. : Kitag. Ind. Fl. Jehol. 50. 1936.——*A. fruticosa* auct., non Willd. ex DC. : Nakai ex Sato Pres. Rep. Fl. E. Wuchum. Reg. 154. 1934.

China (N.-E.), Mongolia.

Ser. 17. **Judaicae** Y. R. Ling ser. nov.

104. **Artemisia judaica** Linn. in Amoen. Acad. (Fl. Palaest.) 4 : 463. 1756.——*A. judaica* Linn. var. *sinaitica* Tackh. & al. Stud. Fl. Egypt 73. 1956.

var. 1. **judaica**

Pen. Arabia, N. Africa (Chad & Sahara).

var. 2. **sahariensis** (Chev.) Y. R. Ling comb. nov.——*A. judaica* Linn. ssp. *sahariensis* Chev. opt. spec., Kew & BM. Herb.

N.-W. Africa (Algyria).

Ser. 18. **Auratae** Poljak. Fl. URSS 26 : 491. 1961.

105. **Artemisia palustris** Linn. Sp. Pl. 846. 1753.

China (N.), Mongolia, Korea, USSR (E. & C.).

106. **Artemisia aurata** Komar. in Act. Hort. Petrop. 18 : 422. 1901.——*A. palustris* Linn. var. *aurata* (Komar.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 684. 1927.

China (N.-E.), N. Japan, N. Korea, USSR (E.).

107. **Artemisia samoiedorum** Pamp. in Lav. Inst. Bot. Univ. Cagl. 35 : 2. 1938.——*A. anethifolia* Web. ex Stechm. var. *macrocephala* Fr. Schmidt in Mem. Acad. Sci. Petersb. 7, 18(1) : 107. 1872.

USSR(N.).

Ser. 19. **Fukuda** Y. R. Ling in Bull. Bot. Res. 8(4) : 20. 1988.

108. **Artemisia succulenta** Ledeb Fl. Alt. 4 : 81.1833.

China (N.-W.), USSR (C.).

109. **Artemisia fukudo** Makino in Bot. Mag. Tokyo 23 : 146. 1909.——*A. fauriei* Nakai in Bot. Mag. Tokyo 29 : 7. 1915. p. p., quoad spec. Faurie n. 358.

China (Taiwan), Korea, Japan.

110. **Artemisia pzrewalskii** Krasch. in Not. Syst. Herb. Hort. petersb. 22 : 191. 1921.

China (Qinghai & Gansu).

Sect. 3. **Artemisia**——*Artemisia* Tourn. Inst. Herb. 1 : 459. 1700.——*Artemisia*, Sect. *Abrotanum* Bess. in Bull. Soc. Nat. Mosc. 1 : 222. 1829. p. p.——Subgen. *Artemisia* Less. Syn. Gen. Comp. 264. 1832. p. p.——Subgen. *Abrotanum* (Bess.) peterm. Deutschl. Fl. 294. 1849. p. p.——Sect. *Vulgares* Rydb. N. Amer. Fl. 34(3) : 265. 1916.

Ser. 1. **Umbrosae** (Pamp.) Y. R. Ling in Bull. Bot. Res. 8(4) : 21. 1938.——*Artemisia*, Subsect. *Umbrosae* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 498. 1930.——Ser. *Smplicifoliae* Poljak. Fl. URSS 26 : 446. 1961. p. p., non Krasch.

111. **Artemisia stolonifera** (Maxim.) Komar. Fl. Mansh. 3(2) : 676. 1907——*A. vulgaris* Linn. var. *stolonifera* Maxim. Prim. Fl. Amur. 161. 1859.——*A. vulgaris* Linn. var. *stolosifera* Maxim. lusus *incana* Regel, Tent. Fl. Ussur. 95. 1862.——*A. megalobotrys* Nakai in Bot. Mag. Tokyo 31 : 111. 1917.——*A. stolonifera* (Maxim.) Komar. var. *laciniata* Nakai l. c. 34 : 53. 1927.——*A. integrifolia* Linn. var. *stolonifera* (Maxim.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 481. 1930, incl. sf. *corylifolia* Pamp. —— *A. migoana* Kitam. in Journ. Jap. Bot. 20 : 192. 1944.

China (N.-E., E. & S.-E.), Korea, Mongolia, USSR(E.).

112. **Artemisia argyi** Levl. & Van. in Fedde, Rep. Sp. Nov. 8: 138.

1910. —— *A. vulgaris* Linn. var. *incana* Maxim. Prim. Fl. Amur. 160. 1859.——*A. vulgaris* Linn. var. *incanescens* Franch. Pl. David. 1: 169. 1884. ——*A. leucophylla* auct., non Turcz. : Komar. Fl. Mansh. 3(2) : 674. 1907. ——*A. nutans* auct., non Willd. : Nakai Fl. Kor. 2 : 33. 1911.—— *A. nutantiflora* Nakai Fl. Sylv. Kor. 14 : 101. 1923. ——*A. handel-mazzetii* Pamp. in Nuov. Giorn. Bot Ital. n. s. 36 : 455. 1929.——*A. chiarugii* Pamp. l. c. 36 : 486. 1930.——*A. argyi* Levl. & Van. var. *incana* Maxim. f. *genuina* Pamp. var. *typica* Pamp. f. *dentata* Pamp. & var. *candicans* Pamp. l. c. 36 : 445—446. 1930. p. p.

var. 1. **argyi**

China (except Xinjiang & Xizang) , Korea, Japan, Mongolia, USSR (E.).

var. 2. **gracilis** Pamp. l. c. 36 : 453, fig. 83. 1930.

China (N. & N.-E.), Korea, Japan.

113. **Artemisia gilvescens** Miq. in Ann. Mus. Bot. Lugd.-Bat. 2 : 175. 1866.——*A. vulgaris* Linn. var. *latifolia* Takeda in Bot. Mag. Tokyo 25 : 23. 1911, non Bess——*A. vulgaris* Linn. var. *gilvescens* Nakai in Bot. Mag. Tokyo 26 : 103. 1912. p. p.

China (E.), Japan.

114. **Artemisia koidzumii** Nakai in Bot. Mag. Tokyo 25 : 56. 1911.——*A. vulgaris* Linn. var. *latifolia* Fr. Schmidt in Mem. Acad. Imp. Sci. St.-Petersb. 7, 12(2) : 149. 1868, non Bess.——*A. vulgaris* Linn. var. *samamisica* Maxim. in Bull Acad. Sci. Petersb. 8 : 535. 1872. p. p. ——A. vulgaris auct., non Linn. : Komar. Fl. Mansh. 3(2) : 637. 1907. —— *A. vulgaris* Linn. var. *latiloba* Takeda in Journ. Linn. Soc. 42 : 474. 1914.——*A. nipponica* Pamp. var. *megalobotrys* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 463. 1930.——*A. samamisica* auct., non Bess. : Hult. Fl. Kamtch. 4 : 185. 1930.——*A. ursorum* Hult. l. c. 4 : 188, pl. 6. fig. g. 1930.

N. Japan, USSR (E.).

115. **Artemisia austro-yunnanensis** Ling & Y. R. Ling in Bull. Bot. Res. 4(2) : 20, fig. 4 : 10—18. 1984. ——*A. burmanica* Pamp. f. *latiloba* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 33 : 455. 1925.——*A. dubia* Wall. ex Bess. var. *longeracemulosa* Pamp. f. *tonkingensis* Pamp. l. c. 36 :

439. 1930.

China (S.-W.), N. Indo-China, N. Thailand, N. Burma, N. India.

Ser. 2. **Codonocephalae** (Pamp.) Y. R. Ling in Bull. Bot. Res. 8 (4): 22. 1988.——*Artemisia, Subsect. Codonocephalae* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 498. 1930.

116. **A. lavandulaefolia** DC. Prodr. 6: 110. 1837.——*A. vulgaris* Linn. var. *umbrosa* Turts. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3: 52. 1834. ——*A. umbrosa* Turcz. ex DC. l. c. 6: 113. 1837, pro syn.——*A. selengensis* Turcz. ex Bess. lusus *umbrosa* Regel, Ten. Fl. Ussur. 96. 1862.——*A. selengensis* Turcz. ex Bess. var. *umbroua* Ledeb. Fl. Ross. 2(2): 584. 1844—46. ——*A. vulgaris* auct., non Linn.: Maxim. in Bull. Acad. Sci. Petersb. 8: 536. 1872, incl. var. *lavandulaefolia* Maxim.——*A. vulgaris* Linn. var. *selengensis* Komar. Fl. Mansh. 3(2): 637. 1907. p. p., non Maxim.——*A. codonocephala* Diels in Not. Bot. Gard. Edinb. 25: 186. 1912.——*A. dubia* Wall. ex Bess. var. *multiflora* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 33: 452. 1926.——*A. clemensiana* Pamp. l. c. 36: 451. 1930., ——*A. argyi* Levl. & var. *incana* Pamp. l. c. 36: 451. 1931. incl. f. *examia* Pamp——*A. argyi* Levl. & Van. var. *gracilis* Pamp. l. c. 36: 453. 1930. p. p.——*A. grisea* Pamp. l. c. 36: 454. 1930.——*A. shansiensis* Pamp. l. c. 36: 454. 1930.——*A. codoncephala* Diels var. *maireana* Pamp. l. c. 36: 457. 1930.——*A. tristis* Pamp. l. c. 36: 458. 1930.——*A. araneosa* Kitam. in Act. Phytotax. Geobot. 2: 171. 1933.——*A. leucophylla* auct., non Turcz. ex Bess.: Kitag. in Rep. First Sci. Exped. Manch. 4(4): 51. 1936. p. p.——*A. argyi* Levl. & Van. var. *eximia* (Pamp.) Kitag. Lineam. Fl. Mansh. 423. 1939.——*A. dubia* auct., non Wall. ex Bess.: Hara Fl. E. Himal. 332. 1966. p. p.

China (except Xinjiang & Xizang), Korea, Japan, Indonesia (Mts.), USSR (E.).

117. **Artemisia verlotorum** Lamotte in Mem. Assoc. Franc. Cong. Clerm.-Ferr. 511. 1876.——*A. gilvescens* Miq. in Ann. Mus. Bot. Lugd.-Bat. 2: 175. 1866. p. p. ——*A. umbrosa* auct., non Turcz. ex Bess.: Verlot, Catal. Gr. Jard. Bot. Gren. 12. 1875.——*A. vulgaris* auct., non Linn.: Hook. f. Fl. Brit. Ind. 3: 325. 1881. p. p.——*A. selengensis* auct., non Turcz. ex Bess.: Bonnet, Petite, Fl. Par. 207. 1883.——*A. vulgaris* Linn. f. *angustisecta* Fiori in Fiori & Paol. Fl. An. Ital. 3: 248. 1903.——*A. vulgaris*

Linn. var. *verlotorum* Batt. & Trab. Fl. An. & Sun. Alg. & Tun. 196. 1904.——*A*. *vulgaris* Linn. ssp. selengensis Tholl. Fl. Adv. Montpel. 529. 1912.——*A*. *vulgaris* Linn. var. *aromatica* Sacc. Fl. Tarv. Ren. 274. 1917. ——*A*. *vulgaris* Linn. var. *suaveolens* Beg. in Fiori & Beg. Sched. Fl. It. exs. 3(13) : 154. 1917.——*A*. *longifolia* Nutt. Gen. Amer. 2 : 142. 1817.——*A*. *vulgaris* Linn. var. *selengensis* Fiori Ic. Fl. Ital. ed. 2, 436. 1921, non Regel——*A*. *dubia* Wall. ex Bess. var. *legitima* Pamp. f. *communis* Pamp. sf. *puberula* Pamp. & sf. *intermedia* Pamp., var. *acuminata* Pamp. f. *leptostachya* (DC.) Pamp. & var. *orientalis* Pamp. in Nuov. Giorn. Bot. Ital. n. s., 36 : 435—438. 1930.——*A*. *mongolica* auct., non Nakai : Chang in Sunyats. 3(4) : 297. 1933.

China (C., E., S. & S.-W.), S. Korea, Japan, Indo-China, Malaysia, Thailand, Indonesia, N. India, Nepal, Sri Lanka, Asia Minor, Austria, Belgium, United Kingdom, Czechoslovakia, France, Germany, Switzerlands, Spain, Italy, Jugoslavia, N.-E. & E. Africa.

118. **Artemisia kanashiroi** Kitam. in Act. Phytotax. Geobot. 12 : 147. 1943.

China (N. & N.-W.).

119. **Artemisia zhongdianensis** Y. R. Ling in Bull. Bot. Res. 8(3) : 1, fig.1 : 1—8. 1988.

China (Yunnan).

120. **Artemisia javanica** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 33 : 459. 1926.

Indonesia (Java).

Ser. 3. **Velutinae** Y. R. Ling in Bull. Bot. Res. 8(4) : 24. 1988.

121. **Artemisia calophylla** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 33 : 457. 1930.

China (S.-W.).

122. **Artemisia velutina** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 413. 1930, incl. f. *genuina* Pamp. & f. *foliosa* Pamp.

China (C., S. & S.-W.).

Ser. 4. **Microcephalae** (Kitam.) Y. R. Ling in Bull. Bot. Res. 8(4) : 24. 1988.——*Artemisia*, Subser. *Microcephalae* Kitam. Comp. Jap. 2 : 410. 1940.

123. **Artemisia lancea** Van. in Bull. Acad. Internat. Geogr. Bot. 12 : 500. 1930.——*A. lavandulaefolia* auct., non DC. : Miq. in Ann. Mus. Bot. Lugd.-Bat. 2 : 175. 1866.——*A. feddei* Levl. & Van. in Fedde, Rep. Sp. Nov. 8 : 138. 1910.——*A. minutiflora* Nakai Fl. Kor. 22 : 30. 1911.——*A. vulgaris* Linn. var. *parviflora* Matsum. : Ind. Pl. Jap. 2 : 626. 1912, non Maxim.——*A. vulgaris* Linn. var. *maximowiczii* Nakai in Bot. Mag. Tokyo 26 : 104. 1912.——*A. lavandulaefolia* DC. var. *feddei* (Levl. & Van.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 467. 1930, incl. forms. & var. *maximcwiczii* Pamp. l. c. 36 : 470. 1930. p. p.

China (except Xinjiang & Xizang), Korea, Japan, Indo-China, Indonesia, USSR (E.).

Ser. 5. **Artemisia**——*Artemisia*, Subsect. *Mongolicae* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 497. 1930.——Subsect. *Leucophyllae* Pamp. l. c. 36 : 497. 1930 & Subsect. *Roxburghianae* Pamp. l. c. 36 : 498. 1930.——Ser. *Vulgares* Poljak. Fl. URSS 26 : 438. 1961. p. p.——Ser. *Bipinnatilobae* Poljak. l. c. 26 : 450. 1961.

124. **Artemisia vulgaris** Linn. Sp. Pl. 848. 1753.——*A. vulgaris* Linn. var. *latiloba* Ledeb. & var. *glabra* Ledeb. Fl. Alt. 4 : 83. 1833. p. p.——*A. samamisica* Bess. in Nouv. Mem. Soc. Nat. Moc. Nat. Mosc. 3 : 50. 1834.——*A. vulgaris* Linn. var. *coarctica* Fors. ex Bess., var. *parviflora* Bess. & var. *latifolia* Fisch. ex Bess. l. c. 3 : 53—55. 1834. p. p. (*10)——*A. obscura* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 417. 1930. p. p.——A. superba Pamp. l. c. 36 : 473. 1930.——*Absinthiun vulgare* auct., non Lam. : Dulac Fl. Hautes.-Pyr. 502. 1867.

(*10). also syn. *Artemisia vulgaris* Linn. var. *dissecta* Fr.——A. *vulgaris* Linn. var. *rupestris* Wallr.——*A. vulgaris* Linn. var. *laciniata* Marias.——

A. coarctica Afzel. —— *A. violacea* Desf., non Ledeb.

var. 1. **vulgaris**

China (N.-W.), Mongolia, USSR, Europe, N. America.

var. 2. **xizangensis** Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4): 505. 1980.

China (Xizang).

125. **Artemisia jaxatica** Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17: 401. 1955.

USSR (Tadzh.).

126. **Artemisia saitoana** Kitam. in Act. Phytotax. Geobot. 7: 63. 1938. —— *A. brachyloba* auct., non Franch.: Komar. in Not. Bot. Hort. Acad. Sci. URSS 30(1—2): 218. 1932.

N. Korea, USSR (E.).

127. **Artemisia montana** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 37: 461. 1930. —— *A. vulgaris* Linn. var. *indica* Maxim. f. *montana* Nakai in Bot. Mag. Tokyo 26: 104. 1912. —— *A. vulgaris* Linn. var. *kamtschatica* Nakai l. c. 26: 104. 1912, non Bess. —— *A. nipponica* Pamp. var. *electa* Pamp. l. c. 36: 463—464. 1930, incl. forms. —— *A. gigantea* Kitam. in Act. Phytotax. Geobot. 2: 172. 1933. —— *A. shikotanensis* Kitam. l. c. 3: 128. 1934. —— *A. gigantea* Kitam. var. *shikotanensis* (Kitam.) Tatew. in Rep. Veg. Shikot. 21. 1940.

China (S.-E.), Japan, Korea, USSR (E.).

128. **Artemisia opulenta** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 464. 1930. —— *A. vulgaris* Linn. var. *kamtschatica* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3: 54. 1834. —— *A. vulgaris* Linn. var. *communis* Ledeb. Fl. Ross. 2(2): 586. 1844—46. p. p. —— *A. verlotorum* auct., non Lamotte: Hult. Fl. Kamtsch. 4: 189. 1930. —— *A. koidzumii* Nakai in Bot. Mag. Tokyo 25: 56. 1911. p. p. —— A. nipponica Pamp. in Nuov. Giorn. Bot.

Ital. n. s. 36 : 462. 1930. p. p.

N. Japan, USSR (E.).

129. **Artemisia unalaskensis** Rydb. N. Amer. Fl. 34(3) : 266. 1916.——*A. wrighttii* A. Gray in Proc. Amer. Acad. 19 : 48. 1883. p. p.——*A. vulgaris* Linn. ssp. *wrightii* (Gray) Hall & Clements in N. Amer. Artem. 80—87. 1923. p. p.——*A. opulenta* Pamp. f. *laciniata* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 465. 1930.

USSR (E.), N.-W. America (Aliux. Is. & Alaska).

130. **Artemisia tilesii** Ledeb. in Mem. Acad. Sci. Petersb. 5 : 568. 1815.——*A. vulgaris* Linn. var. *tilesii* Ledeb. Fl. Ross. 2(2) : 586. 1844—46.——*A. vulgaris* Linn. ssp. *tilesii* Hall & Clements in N. Amer. Artem. 72. 1923.

USSR (E. & N.), N. America.

131. **Artemisia tsuneoi** Tatew. & Kitam. in Act. Phytotax. Geobot. 7 : 64. 1938.

N. Japan.

132. **Artemisia leucophylla** (Turcz. ex Bess.) C. B. Clarke, Comp. Ind. 162. 1876.——*A. vulgaris* Linn. var. *minor* Ledeb. Fl. Alt. 4 : 82. 1833, excl. syn. *A. tilesii* Ledeb.——*A. vulgaris* Linn. var. *kamtschatica* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 54. 1834. p. p.——*A. vulgaris* Linn. var. *leucophylla* Turtz. ex Bess. l. c. 3 : 54. 1834, pro syn.——*A. vulgaris* Linn. var. *rubriflora* Turtz. ex Bess. l. c. 3 : 5. 1834.——*A. leucophylla* (Turcz. ex Bess.) C. B. Clarke var. *typica* Pamp. f. *genuina* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 415. 1930.——*A. obscura* Pamp. var. *rigida* Pamp. l. c. 36 : 418. 1930. p. p.——*A. mongolica* (Fisch. ex Bess.) Nakai var. *krascheninnikovii* Pamp. l. c. 39 : 29. 1932. p. p.

China (N. & S.-W.), N. Korea, Mongolia, USSR (W. Sibiria).

133. **Artemisia yunnanensis** J. F. Jeffrey ex Diels in Not. Bot. Gard.

Edinb. 15 : 187. 1912.——*A. jeffreyana* Levl. Cat. Pl. Yun-Nan, 38. 1915. ——*A. igniaria* Maxim. var. *yunnanensis* (Jeffrey) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 443. 1930.

China (S.-W.).

134. **Artemisia roxburghiana** Wall. ex Bess. in Bull. Soc. Nat. Mosc. 9 : 57. 1836.——*A. hypoleuca* auct., non MB. : Edgew. in Trans. Linn. Soc. 20 : 71. 1846.——*A. revoluta* Edgew. l. c. 20 : 72. 1846.——*A. dubia* Wall. ex Bess. var. *jacquemontiana* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 3 : 452. 1926, incl. forms.——*A. eriocephala* Pamp. l. c. 33 : 454. 1926. ——*A. indica* Willd. var. *exilis* Pamp. l. c. 33 : 459. 1926.——*A. roxburghiana* Wall. ex Bess. var. *acutiloba* Pamp. l. c. 36 : 29. 1930, incl. f. *vestita* Pamp.

var. 1. **roxburghiana**

China (S.-W.), N. India, Nepal, Kashmir, Afghanistan, Thailand.

var. 2. **grata** Hook. f. Fl. Brit. Ind. 3 : 326. 1881.——*A. grata* Wall. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 52. 1834.——*A. dubia* Wall. ex Bess. var. *myriantha* (Wall. ex Bess.) Pamp. l. c. 33 : 450. 1926. p. p.

N. India, Nepal, N. Pakistan.

var. 3. **purpurascens** (Jacq. ex Bess.) Hook. f. l. c. 3 : 326. 1881. ——*A. purpurascens* Jacq. ex Bess. in Bull. Soc. Nat. Mosc. 9 : 60. 1836. ——*A. strongylocephala* Pamp. l. c. 34 : 176. 1927.

China (Sichuan & Xizang), N. India, Nepal, N. Pakistan, Kashmir.

135. **Artemisia nujianensis** (Ling & Y. R. Ling) Y. R. Ling in Bull. Bot. Res. 8(4) : 26. 1988.——*A. yunnanensis* Jeffrey var. *nujianensis* Ling & Y. R. Ling in Act. Phytotax. Sin. 18 (4) : 505, fig. 2. 1980.

China (S.-W.).

136. **Artemisia robusta** (Pamp.) Ling & Y. R. Ling in Bull. Bot. Res.

8(4): 26. 1988.——*A. strongylocephala* Pamp. var. *sinensis* Pamp. f. *robusta* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34: 178. 1927.——*A. dubia* Wall. ex Bess. var. *myriantha* Pamp. l. c. 36: 381. 1929. p. p.

China (S.-W.), N. India.

137. **Artemisia qinlingensis** Ling & Y. R. Ling in Bull. Bot. Res. 4(2): 18, fig. 3. 184. 1984.

China (Qinling Mts.).

138. **Artemisia phyllobotrys** (Hand.-Mazz.) Ling & Y. R. Ling in Bull. Bot. Res. 8(4): 27. 1988.——*A. strongylocephala* Pamp. var. *phyllobotrys* Hand.-Mazz. in Act. Hort. Gothob. 12: 278. 1938.

China (S.-W.).

139. **Artemisia mongolica** (Fisch. ex Bess.) Nakai in Bot. Mag. Tokyo 31: 112. 1917.——*A. vulgaris* Linn. var. *mongolica* Fisch. ex Bess. & var. coarctica Fors. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3: 53. 1834.——*A. vulgaris* Linn. var. *tenuifolia* Turcz. ex DC. Prodr. 6: 113. 1837.——*A. mongolica* (Fisch. ex Bdss.) Nakai var. *tenuifolia* Pamp. f. *genuina* Pamp. & var. *krascheninnikovii* Pamp. & var. *pseudo-vulgaris* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 409—410. 1930.——*A. obscura* Pamp. l. c. 36: 418. 1930.——*A. mongolica* (Fisch. ex Bess.) Nakai ssp. *genuina* Kitag. & var. *interposita* Kitag. in Rep. Inst. Sci. Res. Manch. 4(7): 107. 1940.

China (except S. & S.-E. sea-side & Xizang), Japan, Korea, Mongolia, USSR (E.).

140. **Artemisia verbenacea** (Komar.) Kitag. Lineam. Fl. Mansh. 434. 1939.——*A. vulgaris* Linn. var. *mongolica* Deb. Fl. Tchefou 221. 1877, non Fisch. ex Bess.——*A. vulgaris* Linn. var. *verbenacea* Komar. Fl. Mansh. 3(2): 673. 1907.——*A. mongolica* (Fisch. ex Bess.) Nakai var. *verbenacea* Komar. f. *genuina* Pamp., f. *williamsonii* Pamp. & f. *viscosa* Pamp. incl. sf. *glabrescens* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 412—413. 1930.——*A. obscura* Pamp. var. *congesta* Pamp. l. c. 36: 418. 1930.

——*A. princeps* Pamp. var. *candicans* Pamp. l. c. 36 : 446. 1930.

China (E., C. & S.).

141. **Artemisia rubripes** Nakai in Bot. Mag. Tokyo 31 : 112. 1917.——*A. vulgaris* Linn. var. *vulgatissima* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 52. 1834. p. p.——*A. vulgaris* Linn. var. *parviflora* Maxim. Prim. Fl. Amur. 160. 1859.——*A. mongolica* (Fisch. ex Bess.) Nakai var. *pseudovulgaris* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 413. 1930. p. p.——*A. pleiocephala* Pamp. var. *insularis* Pamp. l. c. 36 : 448. 1930.——*A. nipponica* Pamp. var. *rubripes* Pamp. l. c. 36 : 463. 1930.——*A. venusta* Pamp. l. c. 36 : 470. 1930 & 39 : 33. 1932, incl. vars. & forms.——*A. mongolica* (Fisch. ex Bess.) Nakai ssp. *parviflora* Kitag. incl. f. *luxurians* & ssp. *orientalis* Kitag. in Rep. Inst. Sci. Res. Manch. 4(7) : 107—108. 194.——*A. liaotungensis* Kitag. l. c. 4(7) : 107—108. 1940, pro syn.

China (N.-E.), Korea, Japan, Mongolia, USSR (E.).

142. **Artemisia divaricata** (Pamp.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 46 : 560. 1939.——*A. vulgaris* auct., non Linn. : Mattf. in Fedde, Rep. Sp. Nov. 22 : 248. 1926.——*A. roxburghiana* Wall. ex Bess. var. *divaricata* Pamp. l. c. 36 : 431. 1930.

China (C. & S.-W.).

143. **Artemisia indica** Willd. Sp. Pl. 3 : 1846. 1800.——*A. latifolia* auct., non Ledeb.: Rumph. Herb. Amb. 5 : 261. tab. 91. fig. 2. 1750.——*A. leptostachya* Don Prodr. Fl. Nepal. 182. 1825.——*A. wallichiana* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 69. 1834.——*A. indica* Willd. var. *multiflora* Wall. ex Bess. : var. *nepalensis* Bess. & var. *heyneana* Wall. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 56—57. 1834 & var. *legitima* Bess. in Bull. Soc. Nat. Mosc. 9 : 55—56. 1836. p. p.——*A. vulgaris* Linn. var. *vulgatissima* Bess. l. c. 3 : 52. 1834.——*A. grata* Wall. ex Bess. l. c. 3 : 57. 1834. p. p.——*A. moxa* DC. Prodr. 6 : 121. 1837. p. p., quoad pl. As. Or., Coll. Thunberg, Leiden, Rijksherb.——*A. vulgaris* Linn. var. *indica* Maxim. in Bull. Acad. Sci. Petersb. 8 : 535. 1872.——*A. vulgaris* Linn. var. *nilagirica* C. B. Clarke & var. *grata* C. B. Clarke, Comp. Ind. 162. 1876. p. p.——*A. dubia* auct., non Wall. ex Bess., quoad pl.

As. Or.: Pamp. in Nuov. Giorn. Bot. Ital. n. s. 33: 447—452. 1926 & 36: 434—441. 1930: incl. var. *legitima* (Bess.) Pamp. f. *communis* Pamp., var. *acuminata* Pamp. f. *congesta* Pamp., var. *multiflora* (Wall. ex Bess.) Pamp., var. *grata* (Wall. ex Bess.) Pamp. p. p., var. *orientalis* Bamp., var. *septentrionalis* Pamp., var. *compacta* Pamp. & var. *gracilis* Pamp. cum forms.——*A. nilagirica* (Clarke) Pamp. l. c. 33: 452. 1926. p. p., incl. f. *lobata* Pamp.——*A. elegantissima* Pamp. l. c. 33: 454. 1926. p. p.——*A. longiflora* Pamp. l. c. 33: 462. 1926.——*A. asiatica* Nakai ex Pamp. l. c. 36: 383. 1929, pro syn.——*A. princeps* Pamp. var. *orientalis* (Pamp.) Hara Enum. Sp. Jap. 2: 123. 1952.

var. 1. **indica**

China (except N.-W.), Japan, Korea, Indo-China, Philippine, Thailand, Malaysia, Sri Lanka, Indonesia, Burma, N. India, N. Pakistan, Nepal, Bhutan.

var. 2. **elegantissima** (Pamp.) Y. R. Ling & C. J. Humphries in Bull. Bot. Res. 8(4): 29. 1988.——*A. elegantissima* Pamp. l. c. 33: 445. 1926, incl. var. *kumaonensis* Pamp. cum form.

China (S.-E. Xizang), N. India, Kashmir.

144. **Artemisia princeps** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 45. 1930, incl. var. *typica* Pamp. cum forms.——*A. vulgaris* Linn. var. *indica* Hayata Comp. Formos. 24. 1904, non Maxim.——*A. vulgaris* Linn. var. *latiloba* Nakai in Bot. Mag. Tokyo 26: 103. 1912, non Ledeb.——*A. asiatica* Nakai ex Pamp. l. c. 36: 383. 1929. p. p. pro syn.——*A. parvula* Pamp. l. c. 36: 460. 1930.——*A. montana* Pamp. var. *nipponica* Pamp. l. c. 36: 462. 1930.——*A. lavandulaefolia* DC. var. *maximowiczii* Pamp. l. c. 36: 470. 1930. p. p.

China (E., C. & S.), Korea, Japan.

145. **Artemisia momiyamae** Kitam. in Act. Phytotax. Geobot. 3: 97, pl. 11. 1934.——*A. princeps* Pamp. var. *momiyanae* (Kitam.) Hara Enum. Sp. Jap. 2: 123. 1952.

Japan.

146. **Artemisia occidentali-sinensis** Y. R. Ling in Bull. Bot. Res. 8(3) : 2, fig. 1. 1988.

var. 1. **occidentali-sinensis**

China (Sichuan).

var. 2. **denticulata** Y. R. Ling l. c. 8(3) : 3. 1988.

China (Sichuan).

147. **Artemisia tukuchaensis** Kitam. in Act. Phytotax. Geobot. 30 : 127. 1979.

Nepal.

148. **Artemisia incisa** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 33 : 456. 1929, incl. var. kunawarensis Pamp.

China (S.-W.), Nepal, N. Pakistan, Kashmir.

Ser. 6. **Igniariae** (Pamp.) Y. R. Ling in Bull. Bot. Res. 8(4) : 30. 1988.——*Artemisia*, Subsect. *Igniariae* Pamp. in Nuov. Giorn. Bot. Ital. 36 : 498. 1930.

149. **Artemisia igniaria** Maxim. Prim. Fl. Amur. 161. 1859.——*A. vulgaris* Linn. var. *stolonifera* Loes. in Beih. Bot. Centr. 38 : 19. 1920, non Maxim. ——*A. vulgaris* auct. quoad pl. Sin. Bor., non Linn.: Kitag. Lineam. Fl Mansh. 426. 1939.——*A. stolonifera* auct., non Komar.: Ling in Contr. Inst. Bot. Acad. Peip. 2(10) : 521. 1934. p. p.

China (N.-E., C., E. & S.-E.).

150. **Artemisia nilagirica** (C. B. Clarke) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 33 : 452. 1926.——*A. nilagirica* (C B. Clarke) Pamp. var. *septentrionalis* Pamp. l. c. 33 : 453. 1926, cum forms ——*A. vulgaris* Linn. var. *nilagirica* C. B. Clarke, Comp. Ind. 162. 1876.

China (S.-W.), N. India, N. Burma.

151. **Artemisia brachyphylla** Kitam. in Act. Phytotax. Geobot. 5 : 97, pl. 10, fig. 1. 1936.——*A. koidzumi* Nakai var. *mandshurica* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 483. 1930.——*A. pronutans* Kitag. in Rep. Inst. Sci. Res. Manch. 6 : 126. 1942.——*A. koidzumii* auct., non Nakai : Kitag. l. c. 5 : 150. 1941. p. p., quoad pl. Changpaishan.

China (N.-E.), Korea.

152. **Artemisia komarovii** Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17 : 402. 1955.

USSR (E.).

153. **Artemisia integrifolia** Linn. Sp. Pl. 848. 1753.——*A. vulgaris* Linn. var. *integrifolia* Ledeb. Fl. Ross. 2(2) : 585. 1844-46.——*A. quadriauriculata* Chen. in Bull. Fan Mem. Inst. Biol. 5 : 69. 1934.——*A. komarovii* Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17 : 402. 1955. p. p.

China (N. & N.-E.), Korea, Mongolia, USSR (C. & E.).

154. **Artemisia subulata** Nakai in Bot. Mag. Tokyo 39 : 8. 1915, non Willd. ex Steud. nom. nud.——*A. lavandulaefolia* auct., non DC.: Nakai Fl. Kor. 3 : 29. 1911.——*A. integrifolia* Linn. var. *subulata* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 480. 1930.——*A. vulgaris* Linn. var. *subulata* Nakai ex Pamp. l. c. 36 : 480. 1930, pro syn.——*A. selengensis* Turcz. ex Bess. var. *subulata* Nakai ex Pamp. l. c. 36 : 480. 1930, pro syn.——*A. stenophylla* Kitam. in Act. Phytotax. Geobot. 5 : 89, 97. 1936.——*A. vulgaris* Linn. var. *integerrima* Liou & al. Key Pl. N.-W. China 392. 1959. p. p.

China (N.-E), Korea, Japan, USSR(E.).

155. **Artemisia viridisquama** Kitam. in Act. Phytotax. Geobot. 12 : 148. 1943.

China (N. Prov., S. Gansu & N.-E. Sichuan).

156. **Artemisia tafelii** Mattf. in Fedde, Rep. Sp. Nov. 22 : 244. 1926.——*A. lagocephala* Fisch. ex Bess. var. *tafelii* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 676. 1927.

China (Xizang).

Ser. 7. **Monophyllae** (Kitam.) Y. R. Ling in Bull. Bot. Res. 8(4) : 32. 1988.——*Artemisia*, Subsect. *Monophyllae* Kitam. Comp. Jap. 2 : 413. 1940.

157. **Artemisia viridissima** (Komar.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 48. 1930, quoad var. *typica* Pamp.——*A. vulgaris* Linn. var. *viridissima* Komar. Fl. Mansh. 3(2) : 673. 1907.——*A. integrifolia* auct., non Linn.: Nakai Fl. Sylv. Kor. 14 : 100. 1923.——*A. vulgaris* Linn. var. *integrifolia* Makino & Nemoto Catal. Jap. pl. 5. 1914. p. p., quoad pl. Sin. & Kor., non Ledeb.

China (N.-E.), Korea.

158. **Artemisia monophylla** Kitam. in Act. Phytotax. Geobot. 5 : 34, 89. 1936.——*A. vulgaris* Linn. var. *integrifolia* Mats. Ind. Pl. Jap. 2(2): 626. 1912. p. p., quoad pl. Jap., non Ledeb.——*A. viridissima* (Komar.) Pamp. var. *japonica* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 485. 1930.——*A. integrifolia* auct., non Linn.: Nakai in Bot. Mag. Tokyo 26 : 101. 1906. p. p.

Japan.

159. **Artemisia amygdalina** Decne. in Jacq. Voy. Bot. 92, t. 100. 1836.——*A. salina* Decne. ined., Kew Herb.

N. India, N. Pakistan, Kashmir.

Ser. 8. **Moorcroftianae** (Pamp.) Y. R. Ling in Bull. Bot. Res. 8(4): 32. 1988.——*Artemisia*, Subsect. *Moorcroftianae* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 497. 1930.

160. **Artemisia moorcroftiana** Wall. ex DC. Prodr. 6 : 117. 1837.——*A. wallichiana* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 69. 1834. p. p.——*A. hypoleuca* auct., non Edgew.: Hook. f. Fl. Brit. Ind. 3 : 326. 1881, pro syn.——*A. strongylocephala* Pamp. var. *cachemirica* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 176. 1927, var. *campanulata* Pamp. l. c. 36 : 421. 1930, incl. f. *tenuifolia* Pamp. & var. *cupressiformis* Pamp. l. c. 46 : 575. 1939.——*A. campanulata* Krasch. ex Pamp. l. c. 36 : 421. 1930, pro syn.——*A. brunnea* Pamp. in Rend. Sem. Fas. Sci. Univ. Cagl. 8 : 2. 1938.

China (W. & S.-W.), N. India, Bhutan, Nepal, N. Pakistan, Kashmir.

161. **Artemisia abaensis** Y. R. Ling & S. Y. Zhao in Bull. Bot. Res. 5(2) : 4, fig. 11. 1985.

China (W. Sichuan, E. Qinghai & S. Gansu).

162. **Artemisia tainingensis** Hand.-Mazz. in Act. Hort. Gothob. 12 : 277. 1938.——*A. campbellii* Hook. f. & Thoms. ex C. B. Clarke var. *limprichtii* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 642. 1927.

var. 1. **tainingensis**

China (S.-W.).

var. 2. **nitida** (Pamp.) Y. R. Ling in Bull. Bot. Res. 8(4) : 33. 1988.——*A. moorcroftiana* Wall. ex DC. f. *nitida* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 681. 1927.——*A. moorcroftiana* Wall. ex DC. var. *nitida* (Pamp.) Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4) : 505. 1930.

China (S.-W.).

163. **Artemisia orientali-xizangensis** Y. R. Ling & C. J. Humphries in Bull. Bot. Res. 10(1) : 19, fig. 2 : 10—16. 1990.

China (S.-E. Xizang).

164. **Artemisia campbellii** Hook. f. & Thoms. ex C. B. Clarke, Comp. Ind. 164. 1876.

China (S.-W. Prov. & Qinghai), Bhutan, N. Pakistan, Kashmir.

165. **Artemisia yongii** Y. R. Ling in Bull. Bot. Res. 8(3): 4, fig. 2: 9—15. 1988.

China (Qinghai & Xizang).

166. **Artemisia jilongensis** Y. R. Ling & C. J. Humphries in Bull. Bot. Res. 10(1): 18, fig. 2: 1—9. 1990.

China (E. & S.-E. Xizang).

167. **Artemisia comaiensis** Ling & Y. R. Ling in Bull. Bot. Res. 8(3): 3. fig. 2: 1—8. 1988.

China (E. Xizang).

168. **Artemisia orientali-hengduangensis** Ling & Y. R. Ling in Bull. Bot. Res. 8(4): 34. 1988, nom. nov.——*A. vulgaris* auct., non Linn.: Mattf. in Fedde, Rep. Nov. Sp. 22: 248. 1926. p. p.——*A. roxburghiana* Wall. ex Bess. var. *orientalis* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 430. 1930.

China (S.-W.), Burma.

169. **Artemisia austro-himalayaensis** Y. R. Ling & H. S. Puri in Bull. Bot. Res. 8(3): 7. 1988. nom. nov.——*A. tenuifolia* auct., non Adam. ex DC.: Y. R. Ling & H. S. Puri in Guihaia 5(1): 2. 1985.

N. India.

Ser. 9. **Imponentes** Y. R. Ling in Bull. Bot. Res. 8(4): 34. 1988.

170. **Artemisia imponens** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 35: 424. 1930.——*A. moorcroftiana* auct., non Wall. ex DC.: Mattf. in Fedde,

Rep. Sp. Nov. 22 : 247. 1926.

China (S.-W.).

Ser. 10. **Smithianae** Y. R. Ling in Bull. Bot. Res. 8(4) : 34. 1988.

171. **Artemisia smithii** Mattf. in Fedde, Rep. Sp. Nov. 22 : 246. 1926.

China (Sichuan, Qinghai & Gansu).

Ser. 11. **Sepentes** (Kitam.) Y. R. Ling in Bull. Bot. Res. 8(4) : 34. 1988.——*Artemisia*, Subsect. *Sepens* Kitam. in Act. Phytotax. Geobot. 8 : 63. 1939.

172. **Artemisia speciosa** (Pamp.) Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4) : 505. 1980.——*A. smithii* Mattf. f. *paniculata* Pamp. & var. *speciosa* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 423. 1930.

China (S.-W.).

173. **Artemisia sinensis** (Pamp.) Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4) : 505. 1980.——*A. strongylocephala* Pamp. var. *sinensis* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 177. 1926, incl. f. *genuina* Pamp. & f. *virgata* Pamp.

China (S.-W.).

174. **Artemisia kawakamii** Hayata Ic. Pl. Formos. 8 : 65, pl. 9. 1919.

China (Taiwan).

175. **Artemisia somai** Hayata Ic. Pl. Formos. 8 : 64, pl. 8. 1919.

var. 1. **somai**

China (Taiwan).

var. 2. **batakensis** (Hayata) Kitam. in Act. Phytotax. Geobot. 9 : 32.

1940.——*A. batakensis* Hayata Ic. Pl. Formos. 8 : 64. 1919.

China (Taiwan).

Ser. 12. **Selengenses** (Pamp.) Y. R. Ling in Bull. Bot. Res. 8(4) : 35. 1988.——*Artemisia*, Subsect. *Selengenses* Pamp. Nuov. Giorn. Bot. Ital. n. s. 36 : 497. 1930.

176. **Artemisia selengensis** Turts. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 50. 1834.(Turcz.)——*A. vulgaris* Linn. var. *selengensis* lusus *ytpica* Regel & lusus *serratifolia* Regel Tent. Fl. Ussur. 96. 1861.——*A. vulgaris* Linn. var. *selengensis* Maxim. in Bull. Acad. Sci. Petersb. 8 : 536. 1872. ——*A. vulgaris* Linn. var. *selengensis* Maxim. f. *serratifolia* (Regel) Komar. *integerrima* Komar. Fl. Maush. 3(2) : 673. 1907.——*A. cannabifolia* Levl. in Fedde, Rep. Sp. Nov. 12 : 284. 1913, incl. var. *nigrescens* Levl.——*A. selengensis* Turcz. ex Bess. var. *simplicifolia* Nakai Fl. Sylv. Kor. 1 : 102. 1923, incl. f. *simplicifolia* Nakai.

var. 1. **selengensis**

China (except Xinjiang, Xizang & S.-E, Prov.), Korea, Mongolia, USSR (E).

var. 2. **shanxiensis** Y. R. Ling in Bull. Bot. Res. 8(3) : 5. 1988.

China (Shanxi).

Ser. 13. **Paniculigerae** Poljak. Fl. URSS 26 : 87. 1961.——*Artemisia*, Subsect. *Glochistigma* Kitam. in Act. Phytotax. Geobot. 8 : 63. 1939.

177. **Artemisia keiskeana** Miq. in Ann. Mus. Bot. Logd.-Batav. 2 : 176. 1866.——*A. vulgaris* Linn. var. *stolonifera* Maxim. lusus *glabrescens* Regel Tent. Fl. Ussur. 95. 1861.——*A. japonica* auct., non Thunb. : Fr. Schmidt in Mem. Acad. Imp. Sci. St.-Petersb. 7, 12(2) : 149. 1868.

China (N.-E. & C.), Korea, Japan, USSR (E).

Ser. 14. **Fulgentes** (Pamp.) Y. R. Ling in Bull. Bot. Res. 8(4) : 36. 1988.——*Artemisia*, Subsect. *Fulgentes* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 498. 1930.

178. **Artemisia fulgens** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 427. 1930.

China (Sichuan, Gansu & Xizang).

179. **Artemisia nuristanica** Kitam. Fl. Afghan. 388, fig. 94. 1960.

Afghanistan.

Ser. 15. **Silvaticae** Poljak. Fl. URSS 26 : 445. 1961.——*Artemisia,* Ser. *Nutantiflorae* Poljak. l. c. 26 : 445. 1961.

180. **Artemisia sylvatica** Maxim. Prim. Fl. Amur. 161. 1859. (＊11) (＊11). also syn. *A. microcephala* Sch.-Bip.

var. 1. **sylvatica**

China (except Xinjiang & S.-E. Prov.), Korea, Mongolia, USSR (E.).

var. 2. **meridionalis** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 444. 1930.

China (N.).

181. **Artemisia ussuriensis** Poljak. Fl. URSS 26 : 446. 1961.——*A. nutantiflora* auct., non Nakai : Komar. in Not. Bot. Hort. Acad. Sci. URSS 30(1-2) : 279. 1932.

USSR (E.).

182. **Artemisia taibaishanensis** Y. R. Ling & C. J. Humphries in Bull. Bot. Res. 10(1) : 101, fig. 1 : 1—9. 1990.

China (Shaanxi).

Ser. 16. **Stellerianae** Rydb. N. Amer. Fl. 34(3) : 277. 1916.——*Artemisia,* Sect. *Stellerianum* (Rydb.) Poljak. Fl. URSS 26 : 455. 1961.

Ser. 4. **Senjavinenses** Poljak. Fl. URSS 26 : 484. 1961.

183. **Artemisia stelleriana** Bess. in Nouv. Mem. Soc. Nat. Mosc. 3: 79. 1834.——*A. stelleriana* Bess. var. *sachalinensis* Nakai in Bot. Mag. Tokyo 26: 102. 1912.

N. Japan, N. Korea, USSR (N.), Sweden, Denmark, N. United Kingdom, N. America (Alaska).

Sect. 4. **Artanacetum** (Rzazad.) Poljak. Fl. USSR 26: 524. 1961.——*Artanacetum* Rzazad. in Not. Acad. Sci. Azerb. SSR 3. 1957.

Ser. 1. **Artanacetum**

184. **Artemisia incana** (Linn.) Druce in Rep. Bot. Exch. Cl. Brit. Isles, 3: 414. 1914.——*A. fasciculata* MB. Fl. Taur.-Cauc. 2: 293. 1808.——*A. fasciculata* MB. var. *iberica* Bess. & var. *armenica* Bess. in Bull. Soc. Nat. Mosc. 9: 63—64. 1836.——*Tanacetum* incanum Linn. Sp. Pl. 844. 1753.——*T. orientale* Willd. Sp. Pl. 3: 1812. 1800.——*T. canescens* DC. Prodr. 6: 129. 1837.——*Artanacetum fasciculata* (MB.) Rzazad. in Not. Acad. Sci. Azerd. SSR 3. 1957.

USSR (Caucasus).

Ser. 2. **Globulares** Krasch. ex Poljak. iin Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17: 426. 1955.——*Artemisia*, Sect. *Hyperboreae* Wendelb. in Biblioth. Bot. 125: 49. 1960. p. p.

185. **Artemisia globularia** Cham. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3: 64. 1834.——*A. norvegica* ssp. *globularia* Hall. & Clements in N. Amer. Artem. 58. 1923.——*Ajania globularia* (Cham. ex Bess.) Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17: 426. 1955.

USSR (E.), N. America (Alaska).

186. **Artemisia flava** Jurtz. in Nov. Syst. Pl. Vasc. 6: 317. 1970.

USSR (E.).

Ser. 3. **Glomeratae** Rydb. N. Amer. Fl. 34(3): 260. 1923.——*Artemisia*, Ser. *Furcatae* Krasch. in Mat. Hist. Fl. Veg. 2 : 142. 1946.

187. **Artemisia glomerata** Ledeb. in Mem. Acad. Sci. Petersb. 5 : 564. 1805.——*A. curilensis* Spreng. Syst. Veg. 3 : 489. 1826.——*A. steveniana* Fisch. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 64. 1834.——*A. corymbosa* Fisch. ex Bess. l. c. 3 : 74. 1834.——*A. novegica* Fries. ssp. *glomerata* Hall & Clements in N. Amer. Artem. 59. 1923.——*Ajania glomerata* (Ledeb.) Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17 : 426. 1955.

USSR (N. & E.), N. America.

188. **Artemisia furcata** MB. Fl. Taur.-Cauc. 3 : 567. 1819.——*A. trifurcata* Steph. ex Spreng. Syst. Veg. 3 : 488. 1826.——*A. heterophylla* Bess. in Nouv. Mem. Soc. Nat. Mosc. 3 : 74. 1834.——*A. glomerata* Ledeb. var. *pedunculosa* Koidz. in Bot. Mag. Tokyo 32 : 58. 1918.——*A. trifurcata* Steph. ex Spreng. var. *heterophylla* (Bess.) Kudo Fl. Param. 170. 1922.——*A. trifurcata* Steph. ex Spreng. var. *pedunculosa* (Koidz.) Kitam. in Act. Phytotax. Geobot. 5 : 96. 1939.——*A. yezoensis* Tatew. & Kitam. ex Kitam. in Act. Phytotax. Geobot. 5 : 96. 1936, pro syn.——*Ajania furcata* (MB.) Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17 : 428. 1955.

N. Japan, USSR (N. & E.), N. America.

189. **Artemisia insulana** Krasch. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 9 : 177. 1946.——*A. trifurcata* auct., non Steph. ex Spreng. : Fedtsch. Fl. Iles Command. 111. 1906.——*A. norvegica* Fries. ssp. *heterophylla* Hall & Clements in N. Amer. Artem. 59. 1923. p. p. ——*Ajania insulana* (Krasch.) Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17 : 428. 1955.

USSR (E.).

190. **Artemisia alchokii** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 635. 1927.

Pamir.

Ser. 4. **Senjavinenses** Poljak Fl. URSS 26 : 484. 1961.

191. **Artemisia senjavinensis** Bess. in Bull. Soc. Nat. Mosc. 9: 64. 1836. ——*Ajania senjavinensis* (Bess.) Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17: 428. 1955.

USSR (E), N. America (Alaska).

192. **Artemisia leontopodioides** Fisch. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3: 63. 1834.——*A. glomerata* Rydb. N. Amer. Fl. 34(3): 260. 1916. p. p.——*Ajania leontopodioides* (Fisch. ex Bess.) Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17: 428. 1955.

USSR (E.), N. America (Alaska).

Sect. 5. **Viscidipubes** Y. R. Ling in Act. Phytotax. Sin. 18(4): 506. 1980.

Ser. I. **Viscidipubes**

193. **Artemisia viscida** (Mattf.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 42. 1930.——*A. moorcroftiana* Wall. ex DC. var. *viscida* Mattf. in Fedde, Rep. Sp. Nov. 22: 247. 1926. p. p.——*A. moorcroftiana* auct., non Wall. ex DC.: Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 421. 1930. p. p.

China (S.-W.).

194. **Artemisia vexans** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 427. 1930.

China (S.-W.).

195. **Artemisia thellungiana** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 33: 457. 1926.

China (S.-W.), N. India.

196. **Artemisia tangutica** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 426. 1930.

var. 1. **tangutica**

China (Gansu, Qinghai & Sichuan).

var. 2. **tomentosa** Hand.-Mazz. in Act. Hort. Gothob. 12: 277. 1938.

China (W. Sichuan)

197. **Artemisia mattfeldii** Pamp. in Nuov. Giorn. Bot. Ital n. s. 36: 42. 1930. ——*A. moorcroftiana* Wall. ex DC. var. *viscida* Mattf. in Fedde, Rep. Sp. Nov. 22: 247. 1926. p. p.——*A. viscida* Pamp. in Nuov. Giorn Giorn. Bot. Ital. n. s. 36: 424. 1930. p. p.

var. 1. **mattfeldii**

China (S.-W.).

var. 2. **etomentosa** Hand.-Mazz. in Act. Hort. Gothob. 12: 276. 1938.

China (W. Sichuan, E. Xizang, S.-W. Gansu & S. Qinghai).

198. **Artemisia occidentali-sichuanensis** Y. R. Ling & S. Y. Zhao in Bull. Bot. Res. 5(2): 6, fig. 12. 1985.

China (W. Sichuan).

199. **Artemisia viscidissima** Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4): 508, fig. 6. 1980.

China (E. Xizang & W. Sichuan).

Ser. 2. **Erlangshanenses** Y. R. Ling in Bull Bot. Res. 8(4): 38. 1988.

200. **Artemisia erlangshanensis** Ling & Y. R. Ling in Bull. Bot. Res. 4(2): 23, fig. 6. 1984.

China (W. Sichuan).

Ser. 3. **Pleiocephalae** (Pamp.) Y. R. Ling in Bull. Bot. Res. 8(4): 38. 1988.——*Artemisia*, Subsect. *Pleiocephalae* Pnmp. in Nuov. Giorn. Bot. Ital. n. s. 36: 498. 1930.

201. **Artemisia atrovirens** Hand.-Mazz. in Act. Hort. Gothob. 12: 280. 1938.

China (S.-W., C. & S.), Thailand.

202. **Artemisia chingii** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 39: 34. 1932.

China (S.-W., C. & S.), Indo-China.

203. **Artemisia simulans** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36: 434. 1929.

China (S.-W., S., C. & S.-E.)

204. **Artemisia gyitangensis** Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4): 507, fig. 5. 1980.

China (Xizang & Sichuan).

205. **Artemisia myriantha** Wall. ex Bess. in Nouv. Mem. Soc. Nat. Mosc. 3: 51. 1834. —— *A. vulgaris* Linn. var. *myriantha* (Wall. ex Bess.) C. B. Clarke, Comp. Ind. 162. 1876, excl. syn. *Artemisia paniculata* Roxb. ——*A. vulgaris* auct., non Linn.: Hook. f. Fl. Brit. Ind. 3: 325. 1881. p. p., quoad syn. *A. myriantha* Wall. ex Bess.——*A. yunnanensis* auct., non J. F. Jeffrey: Levl. in Fedde, Rep. Sp. Nov. 11: 304. 1912.——*A. dubia* auct., non Wall. ex Bess.: Pamp. in Nuov. Giorn. Bot Ital. n. s. 33: 447—454. 1926, 34: 653. 1927, 36: 434—441. 1930, 46: 562. 1939. p. p., incl. var. *legitima* (Bess.) Pamp. cum f. *genuina* Pamp. & f. *communis* Pamp., var. *acuminata* Pamp., var. *longeracemulosa* Pamp. & var. *grara* Pamp. ——*A. dolichocephala* Pamp. l. c. 34: 175—176. 1927, incl. f. *yunnanensis* Pamp. ——*A. burmanica* Pamp. l. c. 33: 455. 1926, excl. f. *latiloba* Pamp.,——*A. pleiocephala* Pamp. var. *typica* Pamp. f. *yunnanensis* Pamp. l. c.

36 : 446—448. 1930.

var. 1. **myriantha**

China (S.-W. Prov. & Qinghai), N. India, Bhutan, Nepal, Kashmir, N. Burma, Thailand.

var. 2. **pleiocephala** (Pamp.) Y. R. Ling in Kew Bull. 42(2) : 446. 1987. ——*A. pleiocephala* Pamp. var. *typica* Pamp. cum f. *latiloba* Pamp. & f. *discolor* Pamp. l. c. 36 : 446—448. 1930, 46 : 577. 1939.——*A. vulgaris* auct., non Linn. : Hook. f. Fl. Brit. Ind. 3 : 325. 1881. p. p., quoad syn. *A. myriantha* Wall. ex Bess. p. p. ——*A. dubia* Wall. ex Bess. var. *legitima* Pamp. f. *communis* Pamp. sf. *pauciflora* Pamp. & var. *myriantha* (Wall. ex Bess.) Pamp. cum f. *meridionalis* Pamp. l. c. 33 : 449—450. 1926. ——*A. dubia* auct.,non Wall. ex Bess. : Kitam. in Kihara Fau. Fl. Nep. Himal. 245. 1955. p. p.

China (S.-W. Prov. & Qinghai), N. India, Bhutan, Nepal, Kashmir, N. Burma, N. Thailand.

206. **Artemisia orientali-yunnanensis** Y. R. Ling in Bull. Bot. Res. 8(3) : 5. fig. 3 : 1—12. 1988.

China (E. Yunnan).

207. **Artemisia shennongjiaensis** Ling & Y. R. Ling in Bull. Bot. Res. 4(2) : 24, fig. 7. 1985.

China (W. Hubei).

208. **Artemisia rosthornii** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 36 : 428. 1930.

China (Sichuan).

209. **Artemisia boreali-siamensis** Y. R. Ling nom. nov.——*A. roxburghiana* Bess. var. *acutiloba* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 174.

1927. p. p. & 36 : 429. 1930. p. p., quoad pl. Siam. Bor. 〔A. F. G. Ker. 2904 (1913), BM. Herb., non Coll (1922) ; R. Geesink & al. 8023 (1975), Leiden, Rijksherb.〕.

N. Thailand.

210. **Artemisia sichuanensis** Ling & Y. R. Ling in Bot. Res. 4(2) : 21, fig. 5. 1984.

var. 1. **sichuanensis**

China (Sichuan).

var. 2. **tomentosa** Ling & Y. R. Ling l. c. 4(2) : 22. 1984.

China (Sichuan)

211. **Artemisia zayuensis** Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4) : 507, fig. 4. 1980.

var. 1. **zayuensis**

China (Xizang).

var. 2. **pienmaensis** Ling & Y. R. Ling in Bull. Bot. Res. 8(3) : 6. 1988.

China (Yunnan).

212. **Artemisia gongshanensis** Y. R. Ling & C. J. Humphries in Bull. Bot. Res. 20, fig. 1 : 10—19. 1990.

China (W. Yunnan).

Ser. 4. **Yadongenses** Y. R. Ling in Bull. Bot. Res. 8(4) : 41. 1988.

213. **Artemisia yadongensis** Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4) : 506, fig. 3. 1880.

China (Xizang).

Sect. 6. **Albibractea** Y. R. Ling in Act. Phytotax. Sin. 18(4):506. 1980.

Ser. 1. **Albibractea**

214. **Artemisia deversa** Diels in Engl. Jahrb. Bot. 29:618. 1901.

China (S. Qinling——N. Hengduang Mts.).

215. **Artemisia lactiflora** Wall. ex DC. Prodr. 6:115. 1837. ——*A. septemlobata* Levl. & Van. in Fedde, Rep. Sp. Pl. 7: 22. 1909.——*A. lactiflora* Wall. ex DC. f. *genuia* Pamp., f. *septemlobata* Pamp. & f. *henryana* Pamp. 34:674—675. 1927.

var. 1. **lactiflora**

China (S., C. & E.), Indo-China, Thailand, Indonesia, N-E. India.

var. 2. **incisa** (Pamp.) Ling & Y. R. Ling in Bull. Bot. Res. 8(4): 42. 1988.——*A. lactiflora* Wall. ex DC. f. *incisa* Pamp. l. c. 34:675. 1927.

China (Sichuan, S. Shaanxi & W. Hubei).

216. **Artemisia emeiensis** Y. R. Ling in Bull. Bot. Res. 8(4): 42. 1988. ——*A. anthriscifolia* auct., non Presl. ex Steud.: Chang in Sunyats. 6:24, pl. 5. 1941.

China (Sichuan).

Ser. 2, **Flaccidae** Y. R. Ling in Bull. Bot. Res. 8(4):42. 1988.

217. **Artemisia flaccida** Hand.-Mazz. in Act. Hort. Gothob. 12: 278, fig. 2. 1938.

var. 1. **flaccida**

China (S.-W.).

var. 2. **meiguensis** Ling & Y. R. Ling in Bull. Bot. Res. 8(3): 6. 1988.

China (Sichuan).

Ser. 3. **Anomalae** Y. R. Ling in Bull. Bot. Res. 8(4): 42. 1988.——*Artemisia*, Subsect. *Monophyllae* Kitam. Comp. Jap. 2: 413. 1940. p. p.

218. **Artemisia anomala** S. Moore in Journ. Bot. Brit. For. 13: 227. 1875.——*A. vulgaris* Linn. var. *integrifolia* Franch. in Nouv. Arch. Mus. Hist. Nat. Paris 6: 49. 1883, non Maxim.

var. 1. **anomala**

China (S.), Indo-China.

var. 2. **tomentella** Hand.-Mazz. in Not. Bot. Gart. Mus. Berl. 13: 633. 1937.

China (S.).

Subgen Ⅱ. **Dracunculus** (Bess.) Peterm. Deutschl. Fl. 294. 1849.——*Oligosporus* Cass. in Bull. Philom. 33. 1817 & Dist. Nat. 36: 255. 1826.——*Artemisia*, Sect. *Dracunculus* Bess. in Bull. Soc. Nat. Mosc. 8: 3. 1835.——Sect. *Euartemisia* Gren. & Godr. Fl. Franc. 125. 1850. p. p., quoad Sect. *Dracunculus* Bess.——Subgen. *Euartemisia* (Gren. & Godr.) Rouy, Fl. Franc. 279. 1903. p. p., quoad Sect. *Dracunculus* Bess.

Sect. 7. **Dracunculus** Bess. in Bull. Soc. Nat. Mosc. 8: 3. 1835. sensu stricto.

Ser. 1. **Sphaerocephalae** Krasch. in Mat. Hist. Fl. Veg. 2: 166. 1946.——*Artemisia*, Ser. *Macrolepideae* Krasch. l. c. 2: 169. 1946.

219. **Artemisia sphaerocephala** Krasch. in Act. Inst. Bot. Acad. Sci. USSR 1(3): 348. 1937.——*A. salsoloides* Willd. var. *mongolica* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34: 698. 1927. p. p.——*Oligosporus sphaerocephala* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 169. 1961.

China (N. & N.-W.), Mongolia.

220. **Artemisia halodendron** Turts. ex Bess. in Bull. Soc. Nat. Mosc. 8: 19. 1835. (Turcz.)——*A. intramongolica* H. C. Fu in Fl. Intramong. 6: 125—127, Add. 327. 1982, incl. var. *microphylla* H. C. Fu——*Oligosporus halodendron* (Turcz. ex Bess.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 168. 1961.

China (N. & N.-E.), Mongolia, USSR (S.-E.).

221. **Artemisia wudanica** Liou & W. Wang in Act. Phytotax. Sin. 17: (4): 88, fig. 1. 1979.

China (N. & N.-E.).

222. **Artemisia kangmarensis** Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4): 510, fig. 7. 1980.

China (Xizang).

Ser. 2. **Psammophilae** Poljak. Fl. USSR 26: 537. 1961. ——*Artemisia*, Sect. *Psammophilae* Krasch. in Mat. Hist. Fl. Veg. 2: 150. 1946.——Sect. *Campestres* Krasch. l. c. 2: 148. 1946.

223. **Artemisia songarica** Schrenk, Enum. Pl. Nov. 1: 49. 1841.——*Oligosporus songaricus* (Schrenk) Poljak. in Mat. Fl. Veg. Kaschg. 11: 168. 1961.

China (N.-W.), USSR (C. Asia).

224. **Artemisia ordosica** Krasch. in Not. Syst. Herb. Inst. Acad. Sci. URSS 9: 173. 1949.——*A. salsoloides* Willd. var. *mongolica* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34: 698. 1927.——*A. ordosica* Krasch. var. *montana*

H. C. Fu & var. *furva* H. C. Fu in Fl. Intramong. 6: 123. 1982.

China (N. & N.-W.).

225. **Artemisia globosa** Krasch. in Not. Syst. Herb. Hort. Petrop. 3: 27. 1922.——*Oligosporus globosus* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 169. 1961.

Mongolia.

226. **Artemisia prattii** (Pamp.) Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4): 511. 1980.——*A. salsoloides* Willd. var. *prattii* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34: 698. 1927.

China (Xizang, Sichuan & Qinghai).

227. **Artemisia klementzae** Krasch. in Mat. Hist. Fl. Veg. 2: 163. 1946, nom. nud., ex Leonova in Nov. Syst. Pl. Vasc. 17: 236. 1980.——*A. xylorrhiza* Krasch. 1. c. 2: 155. 1946.

China (N.), Mongolia.

228. **Artemisia eldarica** Rzazad. in Not. Acad. Sci. Azerb. SSR 3: 22. 1915.

USSR (Caucasus).

229. **Artemisia globosoides** Ling & Y. R. Ling in Bull. Bot. Res. 5(2): 7, fig. 13. 1985.

China (N.).

230. **Artemisia xanthochloa** Krasch. in Not. Syst. Herb. Inst. Acad. Sci. URSS 9: 174. 1946.——*Oligosporus xanthochlous* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 169. 1961.

China (N.), Mongolia.

231. **Artemisia oxycephala** Kitag. in Rep. First. Sci. Exped. Manch. 4(4): 51, 9. 1936.——*A. pubescens* Ledeb. var. *oxycephala* (Kitag.) Kitag. Lineam. Fl. Mansh. 429. 1939.——*A. campestris* auct., non Linn.: Kitam. Comp. Jap. 2: 380. 1940. p. p., quoad pl. Sin. Bor.-Or. & Bor.

China (N.).

232. **Artemisia marschalliana** Spreng. Syst. Veg. 3: 496. 1826.——*A. inodora* auct., non Mill.: MB. Fl. Taur.-Cauc. 2: 245. 1808.——*A. campestris* Linn. var. *gmeliniana* Bess. in Bull. Soc. Nat. Mosc. 8: 44—45. 1835.——*A. tomentella* Trautv. var. *subglabra* Krasch. in Kryl. Fl. Sibir. Occ. 11: 2772. 1949.——*A. campestris* Linn. var. *marschalliana* (Spreg.) Poljak. Fl. URSS 26: 553. 1961. p. p.——*Dracunculus marschalliana* Less. in Linnaea 9: 170. 1834.——*Oligosporus marschalliana* Less. 1. c. 9: 191. 1834.

var. 1. **marschalliana**

China (Xinjiang), USSR (C. & W.).

var. 2. **sericophylla** (Rupr.) Y. R. Ling in Bull. Bot. Res. 8(4): 48. 1988.——*A. sericophylla* Rupr. in Beitr. Pfl. Russ. Reich. 2: 41. 1845.——*A. campestris* Linn. f. *sericea* Korsh. Tent. Fl. Ross. Or. 216. 1898.——*A. marschalliana* Spreng. f. *sericea* (Korsh.) Krasch. in Kryl. Fl. Sibir. Occ. 11: 2773. 1949.——*A. campestris* Linn. var. *sericophylla* (Rupr.) Poljak. Fl. USSR. 26: 554. 1961. (*12)

(*12). also syn. *Artemisia sericea* sensu Fries., non Web. ex Stechm.

China (Xinjiang), USSR (C. Asia).

233. **Artemisia trautvetteriana** Bess. in Mem. Acad. Sci. Petersb. 4: 464. 1845.——*A. pauciflora* MB. Taur.-Cauc. 2: 290. 1808. p. p., excl. syn.——*A. pauciflora* MB. var. *cernua* Bess. in Bull. Soc. Nat. Mosc. 8: 21. 1835.——*Oligosporus trautvetterianus* (Bess.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 168. 1961.

USSR (W.).

234. **Artemisia quinqueloba** Trautv. in Bull. Soc. Nat. Mosc. 1: 348.

1866.——*Oligosporus quinquelobus* (Trautv.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

USSR (C. Asia).

235. **Artemisia tschernieviana** Bess. in Bull. Soc. Nat. Mosc. 8 : 31. 1835.——*A. pauciflora* MB. Fl. Taur.-Cauc. 2 : 290. 1808. p. p.——*A. inodora* MB. var. *steveniana* Bess. l. c. 8 : 44. 1835.——*A. arenaria* DC. Prodr. 6 : 94. 1837.——*A. subulosa* Willd. ex DC. Prodr. 6 : 94. 1837, pro syn.——*A. subulata* Willd. ex Steud. Nom. ed. 2. 1 : 140. 1840. nom. nud.——*A. inodora* auct., non Mill. : Ledeb. Fl. Ross. 2(2) : 566. 1844—46. p. p.——*Oligosporus arenarius* (DC.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

USSR (C. & W.), E. Romania.

236. **Artemisia albicerata** Krasch. in Not. Syst. Herb. Inst. Acad. Sci. URSS 9 : 173. 1946.——*Oligosporus albiceratus* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

USSR (C. Asia).

237. **Artemisia saposhnikovii** Krasch. ex Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 12 : 412. 1955. ——*Oligosporus saposhnikovii* (Krasch. ex Poljak.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

China (Xinjiang), USSR (C. Asia).

238. **Artemisia salsoloides** Willd. Sp. pl. 3 : 1332. 1800.——*A. tanaitica* Klok. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 16 : 362. 1954.——*Oligosporus salsoloides* (Willd.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

USSR (C. & W.).

239. **Artemisia wellbyi** Hemsl. & Pears. ex Deasy Tibet Chin. Turk. 397. 1901, nom. nud., in Journ. Linn. Soc. 35 : 183. 1902.——*A. salsoloides* Willd. var. *wellbyi* (Hemsl. & Pears. ex Deasy) Ostenf. & Pauls. in S. Hedin, S. Tibet 6(3) : 40. 1922.——*A. salsoloides* auct., non Willd.: Hook.

f. Fl. Brit. Ind. 3 : 321. 1881. p. p., incl. var. *salsoloides* Hook. f.——*Oligosporus wellbyi* (Hemsl. & Pears. ex Deasy) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 169. 1961.

China (Xizang), N. India.

240. **Artemisia waltonii** J. R. Drumm. ex Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 707. 1927.

var. 1. **waltonii**

China (E. Xizang, W. Sichuan & W. Yunnan).

var. 2. **yushuensis** Y. R. Ling in Bull. Bot. Res. 8(4) : 49. 1988.

China (Qinghai & Xizang).

241. **Artemisia gyangzeensis** Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4) : 510, fig. 8. 1980.

China (Xizang, S. Qinghai & S. Gansu).

242. **Artemisia xigazeensis** Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4) : 511. 1980.——*A.salsoloides* auct., non Willd. : Hook. f. Fl. Brit. Ind. 3 : 321. 1881. p. p., incl. var. *salsoloides* Hook. f. p. p. & var. *paniculata* Hook. f.——*A. halimodendron* Ledeb. ex Hook. f. l. c. 3 : 321. 1881, nom. nud., pro syn., spec. Cambridge Univ. Herb.——*A. salsoloides* Willd., var. *salsoloides* Hook. f. f. *genuina* Pamp., f. *halodendron* Pamp. & f. *paniculata* (Hook. f.) Pamp. in Nuov. Giorn. Bot. Ital. n. s, 34 : 696—697. 1927.

China (Xizang, S. Qinghai & S. Gansu).

243 **Artemisia nortonii** Pamp. in Nuov. Giorn. Bot. Itall n. s. 34 : 683 1927.——*A. salsoloides* Willd. var. *salsoloides* Hook. f. Fl. Brit. Ind. 3 : 321. 1881. p. p.

China (Xizang).

244. **Artemisia lipskyi** Poljak. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 17 : 411. 1955.——*Oligosporus lipskyi* (Poljak.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

USSR (C. Asia).

245. **Artemisia campestris** Linn. Sp. Pl. 846. 1753.——*A. insipida* Vill. Prosp. 32. 1779.——*A. gallica* Willd. Sp. Pl. 3 : 1284. 1800.——*A. inodora* auct., non Mill. : MB. Fl. Taur.-Cauc. 2 : 295. 1808.——*A. procera* auct. non Willd. : Lap. Hist. Abr. Pl. Pyr. 503. 1813.——*A. spithamaea* Pursh. Fl. Amer. Sept. 2 : 522. 1814. p. p.——*A. lednicensis* Roch. ex Spreng. Pl. Cogn. Pugill. 2 : 77. 1815.——*A. variabilis* Ten. Fl. Neap. Prod. App. 5 : 28. 1826.——*A. jussieana* Gay ex Bess. l. c. 8 : 28. 1835.——*A. campestris* Linn. var. *steveniana* Bess. l. c. 8 : 44. 1835.——*A. borealis* Pall. var. *spithamaea* (Pursh.) Torr. & Gray Fl. N. Amer. 2 : 417. 1843. ——*A. paniculata* Lam. var. *visianiana* (Bess.) K. Maly Enum. Pl. Phanerog. Aust. Univ. Wien. 1848.——*A. campestris* Linn. ssp. *bottnica* Lund. ex Kindb. Svesk. Fl. 301. 1877.——*A. bottnica* Lund. ex Nym. Consp. Fl. Eur. Suppl. 2(1) : 170. 1889.——*A. campestris* Linn. var. *bottnica* Hartm. Handb. Scand. Fl. 11 : 6. 1897. (＊13) ——*A. commutata* Bess. var. *bottnica* Krasch. in Mat. Hist. Fl. Veg. 2 : 152. 1946. ——*A. borealis* Pall. ssp. *bottnica* (Lund. ex Kindb.) Hult. Atlas over vaxter Usbr. tab. 1721. 1950. ——*A. dniproica* Klok. in Fl. RSS Ucr. 11 : 330, 556. 1962.——*Abrotanum frutescens* Gilib. Fl. Lituan. 1 : 173. 1781.——*Oligosporus campestris* (Linn.) Cass. in Dict. Nat. 36 : 25. 1825. (＊14) ——*O. variabilis* (Ten.) Poliak. in Mat. Fl. Veg. Kaschg. 11 : 169. 1961. ——*O. jussieana* (Gay ex Bess.) Poljak. l. c. 11 : 168. 1961.——*Absinthium virens* Juss. ex Bess. in Bull. Soc. Nat. Mosc. 8 : 29. 1835.——*A. campestre* Dulac, Fl. Haut.-Pyr. 502. 1867.

(＊13). also syn. *Artemisia xylopoda* Yard.——*A. campestris* Linn. var. *stricta* Semen.——*A. campestris* Linn. var. *lednicensis* Roch.——*A. campestris* Linn. var. *letescens* Mort.——*A. campestris* Linn. var. *parviflora* Wellm.

(＊14). also syn. *Oligosporus orophilus* Yard.——*O. monticolus* Yard. & Jour.

var. 1. **campestris**

China (N. & N.-W.), USSR (C. & W.), Europe, N. Africa, N. America.

vac. 2. **araratica** (Novop.) Poljak. Fl. URSS 26 : 554. 1961 (*15) (*15). also syn. *Artemisia campestris* Linn. var. *confusa* Fr.

USSR (Caucasus).

var. 3. **sosnovskyi** (Novop.) Poljak. Fl. URSS 26 : 554. 1961.——*A. sosnovskyi* Krasch. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 11 : 178. 1949.

USSR (C. & W.).

var. 4. **glutinosa** (Gay ex Bess.) Y. R. Ling comb. nov.——*A. glutinosa* Gay ex Bess. in Bull. Soc. Nat. Mosc. 8 : 27. 1835.——*A. campestris* Linn. ssp. *glutinosa* (Gay ex Bess.) Batt. in Batt. & Trabut, Fl. Alger. Dicot. 469. 1889.——*Oligosporus glutinosus* (Gay ex Bess.) Poliak. in Mat. Fl. Veg. Kaschg. 11 : 170. 1961.

Portugal, Spain, France.

246. **Artemisia tomentella** Trautv. in Bull. Soc. Nat. Mosc. 39(1) : 351. 1866.——*A. inodora* MB. ssp. *tomentella* (Trautv.) Krasch. ex Poliak. Fl. URSS 26 : 554. 1961, pro syn.——*Oligosporus tomentellus* (Trautv.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 167. 1961.

USSR (C. Asia).

247. **Artemisia crithmifolia** Linn. Sp. Pl. 846. 1753.——*A. gayana* Bess. in Bull. Soc. Nat. Mosc. 8 : 37. 1835.——*A. campestris* Linn. ssp. *maritima* Arcang. Comp. Fl. Ital. 366. 1882.——*Oligosporus crithmifolia* (Linn.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 169. 1961.——*O. gayana* (Bess.) Poljak. l. c. 11 : 169. 1961.

Bulgaria, France, Spain, Poltugal.

448. **Artemisia monosperma** Delile, Fl. Egypt. 263, t. 43-1. 1813-14.——*A. deliliana* Bess. in Mem. Acad. Imp. Sci. Petersb. 4 : 486. 1842.——*Oligosporus monospermus* (Delile) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 169. 1961.

Pen. Arab, N.-E. Africa.

Ser. 3. **Dracunculus**——*Artemisia*, Ser. *Simplicifoliae* Krasch. in Mat. Hist. Fl. Veg. 2 : 165. 1946.——Ser. *Dracunculi* Krasch. l. c. 2 : 176. 1946.——Ser. *Eu-Dracunculi* Krasch. l. c. 2 : 176. 1946.

249. **Artemisia dracunculus** Linn. Sp. Pl. 849. 1753.——*A. incdora* auct., non Mill. : Willd. Enum. Hort. Berol. 2 : 864. 1809.——*A. dracunculoides* Pursh. Fl. Amer. Sept. 742. 1814.——*A. cernua* Nutt. Gen. Amer. 2 : 143. 1818.——*A. glauca* auct., non Pall. : Maxim. in Bull. Acad. Sci. Petersb. 8 : 523. 1872. p. p.——*A. desertorum* Spreng. var. *macrocephala* Franch. Pl. Turk. 88. 1883., non Spreng.——*A. dracunculina* Wats. in Proc. Amer. Acad. 23 : 279. 1888.——*A. aromatica* A. Nels. in Bull. Torr. Bot. Club 273. 1900.——*Oligosporus condimentarium* Cass. in Dict. Nat. 36 : 26. 1826.——*O. dracunculus* (Linn.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 166. 1961.

var. 1. **dracunculus**

China (N. & N.-W.), Mongolia, Afghanistan, N. India, N. Pakistan, Kashmir USSR, Austria, Czechoslovakia, France, Germany, Switzerlands, Jugoslavia, Romania, N. America.

var. 2. **turkestanica** Krasch. in Mat. Hist. Fl. Veg. 2 : 177. 1946. nom. nud., ex Poljak. Fl. URSS 26 : 533. 1961.

China (Xinjiang), USSR (C. Asia).

var. 3. **pratorum** Krasch. in Catal. Pl. Herb. Fl. URSS 10 : no. 3179. 1936, in Kryl. Fl. Sibir. Occ. 11 : 2769. 1949.

USSR (C. Asia).

var. 4. **pilosa** Krasch. Fl. S.-E. Europ. URSS 6 : 350. 1936.

USSR (C. Asia).

var. 5. **redovskyi** Ledeb. Fl. Ross. 2(2) : 563. 1844—46.——*A. redovskyi* auct., non MB.: Ledeb. in Mem. Acad. Sci. Petersb. 5: 574. 1826.

USSR (C. Asia).

var. 6. **changaica** (Krasch.) Ling & Y. R. Ling in Bull. Bot. Res. 2(2): 36. 1982.——*A. changaica* Krasch. in Act. Inst. Bot. Acad. Sci. USSR 1(3): 346. 1937.——*Oligosporus changaicus* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 169. 1961.

China (N.-W.), Mongolia.

var. 7. **pamirica** (C. Winkl.) Y. R. Ling & C. J. Humphries in Bull. Bot. Res. 8(4): 45. 1988.——*A. pamirica* C. Winkl. in Act. Hort. Petrop. 11(10): 329. 1890, incl. var. *aschurbajewi* C. Winkl.——*A. pamirica* C. Winkl. f. *trifida* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34: 684. 1927.——*A. simplicifolia* Pamp. l. c. 46: 584. 1939.——*Oligosporus pamiricus* (C. Winkl.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 166. 1961.

China (W. Xinjiang & W. Xizang), USSR (Tadzh.).

var. 8. **qinghaiensis** Y. R. Ling in Bull. Bot. Res. 8(4): 44. 1988.

China (Qinghai).

var. 9. **humilis** Kryl. Fl. Alt. 3: 633. 1904.

USSR (W. Sibiria).

250. **Artemisia dracunculiformis** Krasch. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 9: 172. 1949.——*Oligosporus dracunculiformis* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 166. 1961.

USSR (N. Asia).

251. **Artemisia daghestanica** Krasch. & Por. in Bull. Gard. Bot. Acad. Sci. URSS 30: 709. 1932.——*Oligosporus daghestanica* (Krasch. & Por.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 166. 1961.

USSR (Caucasus).

Ser. 4. **Glaucae** Krasch. in Mat. Hist. Fl. Veg. 2 : 176. 1946.

252. **Artemisia glauca** Pall. ex Willd. Sp. Pl. 3 : 1831. 1800.——*Oligosporus glauca* (Pall.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 166. 1961.

var. 1. **glauca**

USSR (C. Asia), Mongolia.

var. 2. **incana** Bess. in Bull. Soc. Nat. Mosc. 8 : 57. 1835.——*A. glauca* Pall. var. *latifolia* Bess. in sched., Spec. Cambridge Univ. Herb.

USSR (Altai).

var. 3. **humilis** Kryl. Fl. Alt. 3 : 634. 1904.

USSR (C. Asia).

253. **Artemisia dimoana** M. Pop. in Descr. Pl. Nov. Turkest. 2 : 75. 1916.——*Oligosporus dimoanus* (M. Pop.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 166. 1961.

USSR (C. Asia).

254. **Artemisia kelleri** Krasch. in Rep. Exped. Pedol.-Bot. Kaschg. Acad. Sci. URSS 4(2) : 247. 1930.——*Oligosporus kelleri* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 166. 1961.

USSR (C. Asia).

Ser. 5. **Palmatisectae** Poljak. Fl. URSS 26 : 544. 1961.

255. **Artemisia kuschakewiczii** C. Winkl. in Act. Hort. Petrop. 11 : 330. 1890.——*Oligosporus kuschakewiczii* (C. Winkl.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

China (Xinjiang), USSR (C. Asia).

Ser. 6.——**Pubescentes** Krasch. in Mat. Hist. Fl. Veg. 2 : 154. 1946.——*Artemisia*, Ser. *Capillares* Krasch. l. c. 2 : 156. 1946.——Ser. *Commutatae* Poljak. Fl. URSS 26 : 551. 1961.

256. **Artemisia ledebouriana** Bess. in Bull. Soc. Nat. Mosc. 8 : 39. 1835. ——*A. borealis* Pall. var. *ledebouri* Ledeb. Fl. Ross. 2(2) : 562. 1844-46. non Bess.——*Oligosporus ledebourianus* (Bess.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 167. 1961.

N. Korea, USSR (E).

257. **Artemisia pannosa** Krasch. in Act. Inst. Bot. Acad. Sci. URSS 1(3) : 347. 1936.——*Oligosporus pannosus* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 167. 1961.

USSR (E.).

258. **Artemisia olgensis** (Vorob.) Vorosh. Fl. Far East USSR 420. 1966. (*16)
(*16). also syn. *Artemisia pannosa* Krasch. var. *olgensis* Vorob.

USSR (E.).

259. **Artemisia forrestii** W. W. Smith in Not. Bot. Gard. Edinb. 12 : 19. 1920.

China (Yunnan).

260. **Artemisia mairei** Levl. in Fedde, Rep. Sp. Nov. 11 : 303. 1912.

China (Yunnan).

261. **Artemisia pubescens** Ledeb. in Mem. Acad. Sci. Petersb. 5 : 568. 1805.——*A. desertorum* auct., non Spreng. : Bess. in Hook. Fl. Bor. Amer. 1 : 325. 1829.——*A. campestris* auct., non Linn.: Ledeb. Fl. Alt. 4 : 86. 1833. p. p.——*A. commutata* Bess. in Bull. Soc. Nat. Mosc. 8 : 70—76. 1835, incl. var. *helmiana* Bess. & var. *pallasiana* Bess.——*A. borealis* Pall. var. *mertensii* Bess. & var. *ammaniana* Bess. l. c. 8 : 87. 1835. p. p.——

A. campestris Linn. var. *pubescens* (Ledeb.) Trautv. & Mey. Fl. Ochot. 52. 1856.——*A. capillaris* Thunb. var. *simplex* Maxim. in Bull. Acad. Sci. Petersb. 8 : 525. 1872.——*A. desertorum* Spreng. var. *sprengeliana* Bess. f. *helmiana* (Turcz.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 650. 1927, excl. syn,——*A. desertorum* Spreng. var. *pallasiana* (Bess.) Pamp. l. c. 34 : 652. 1927.——*A. borealis* Pall. var. *ledebouri* Kitam. Comp. Jap. 2 : 377. 1940, non Bess.——*A. commutata* Bess. var. *pubescens* (Ledeb.) Poljak. Fl. URSS 26 : 552. 1961.——*Oligosporus affinis* Less. in Linnaea 9 : 164. 1835.——*O. commutatus* (Bess.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 167. 1961.

var. 1. **pubescens**

China (N., C. & S.-W.), Japan, Mongolia, USSR.

var. 2. **gebleriana** (Bess.) Y. R. Ling in Bull. Bot. Res. 8(4) : 51. 1988.——*A. commutata* Bess. var. *gebleriana* Bess. l. c. 8 : 70. 1835.——*A. desertorum* Spreng. var. *sprengeliana* Bess. f. *helmiana* Pamp. sf. *gebleriana* Pamp. l. c. 34 : 651. 1927.——*A. pubescens* auct., non Ledeb.: Kitag. in Lineam. Fl. Mansh. 429. 1939.

China (N. & C.), Mongolia, USSR (E. & C.).

var. 3. **coracina** (W. Wang) Ling & Y. R. Ling in Bull. Bot. Res. l. c. 8(4) : 51. 1988.——*A. coracina* W. Wang in Act. Phytotax. Sin. 17(4) : 89. 1979.

China (N.-E.).

var. 4. **monostachya** (Bge. ex Maxim.) Y. R. Ling comb. nov.——*A. monostachya* Bge. ex Maxim. in Bull. Acad. Sci. Petersb. 8 : 525. 1872.——*A. commutata* Bess. var. *altaica* Kryl. Fl. Alt. 3 : 635. 1904.——*A. dolosa* Krasch. in Animadv. Syst. Herb. Univ. Tomsk. 1(2) : 4. 1849.——*A. commutata* Bess. var. dolosa (Krasch.) Poljak. Fl. URSS 26 : 552. 1961.

Mongolia, USSR (Altai).

262. **Artemisia gansuensis** Ling & Y. R. Ling in Bull. Bot. Res. 5(2): 9, fig. 14. 1985.

var. 1. **gansuensis**

China (N. & N.-W.).

var. 2. **oligantha** Ling & Y. R. Ling l. c. 5(2): 10. 1985.

China (Nei Monggol & Gansu).

263. **Artemisia demissa** Krasch. in Act. Inst. Bot. Acad. Sci. USSR 1(3): 348. 1936.——*Oligosporus demissus* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 167. 1961.

China (N.-W. Prov. & Xizang), Mongolia, USSR (C. Asia).

264. **Artemisia macilenta** (Maxim.) Krasch. in Mat. Hist. Fl. Veg. 2: 156. 1946.——*A. campestris* Linn. var. *macilenta* Maxim. in Prim. Fl. Amur. 158. 1859.——*A. commutata* Bess. var. *helmiana* Bess. in Bull. Soc. Nat. Mosc. 8: 69. 1835. p. p.——*A. capillaris* Thunb. var. *simplex* Maxim. in Bull. Acad. Sci. Petersb. 8: 524. 1872. p. p.——*A. desertorum* Spreng. var. *macilenta* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34: 651. 1927.——*Oligosporus macilentus* (Maxim.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 167. 1961.

China (N.), USSR (E.).

265. **Artemisia chienshanica** Ling & W. Wang in Act. Phytotax. Sin. 17(4): 89. 1979.

China (N.-E.).

266. **Artemisia capillaris** Thunb. Fl. Jap. 309. 1784.——*A. sachalinensis* Tiles. ex Bess. in Bull. Soc. Nat. Mosc. 8: 48. 1835.——*A. scoparia* auct., non Waldst. & Kit.: Maxim. Prim. Fl. Amur. 159. 1859.——*A. capillaris* Thunb. var. *arbuscula* Miq. in Ann. Mus. Bot. Lugd.-Bat. 2: 175. 1866.——*A. capillaris* Thunb. var. *acaulis* Pamp. in Nuov. Giorn.

Bot. Ital. n. s. 34 : 646. 1927. & var. *grandiflora* Pamp. l. c. 46 : 558. 1939.——*A. fukudo* Makino var. *mokpensis* Pamp. l. c. 34 : 656. 1927. p. p., quoad spec. U. Faurie 1058, Korea.——*A. hallaisanensis* Nakai var. *formosana* Pamp. l. c. 34 : 658. 1927, incl. forms & var. *philippinensis* Pamp.——*A. japonica* Thunb. var. *rotundifolia* Franch. f. *vestita* Pamp. 34 : 669. 1927. p. p., quoad spec. U. Faurie 1058, Korea.——*A. sieboldii* Kollm. ined., quoad spec. 1838, Java, Leiden Rijksherb.——*Oligosporus capillaris* (Thunb.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 167, 1961.

China (E. & S.), Indo-China, Philippine, Malaysia, Indonesia.

267. **Artemisia morrisonensis** Hayata Ic. Pl. Formos. 8 : 63. 1919.——*A. scoparia* auct., non Waldst. & Kit.: Hayata, Fl. Mont. Formos. 138. 1908.——*A. campestris* auct., non Linn.: Kitam. Comp. Jap. 2 : 380. 1940. p. p., quoad pl. Taiwan.

China (Taiwan).

268. **Artemisia oligocarpa** Hayata Fl. Mont. Formos. 137, tab. 21. 1908.——*A. borealis* Pall. var. *oligocarpa* (Hayata) Kitam. in Act. Phytotax. Geobot. 3 : 128. 1934.

China (Taiwan).

Ser. 7. **Scopariae** Krasch. in Mat. Hist. Fl. Veg. 2 : 156. 1946.

269. **Artemisia scoparia** Waldst. & Kit. Pl. rar. Hung. 1 : 66. Tab. 65. 1802.——*A. elegans* Roxb. Fl. Ind. 3 : 421. 1832.——*A. tricophylla* Wall. ex DC. Prodr. 6 : 100. 1837.——*A. paniculata* auct., non Lam.: Bess. in Mem. Acad. Sci. Petersb. 4 : 471. 1842.——*A. capillaris* auct., non Thunb.: Miq. in Ann. Mus. Bot. Lugd.-Bot. 2 : 175. 1866——*A. kohatica* Klatt in Sitzb. Akad. Muench. 91. 1878.——*A. scopariaeformis* M. Pop. Descr. Pl. Nov. Turkest. 1 : 50. 1915.——*A. capillaris* Thunb. var. *scoparia* (Waldst. & Kit.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 642. 1927, incl. forms.——*A. scoparioides* Grossh. in Trans. Geo-Bot. Invest Pastur. Azerb. 1(2) : 69. 1929.——*A. scoparia* Waldst. & Kit. var. *heteromorpha* Kitag. Lineam. Fl. Mansh. 431. 1939.——*Oligosporus scoparius* (Waldst. & Kit.) Less. in Linnaea 9 : 191. 1834.

Eurasia-distribution, but except S. Asia, N. Europe and Islands in the Mediterranean.

27. **Artemisia edgeworthii** Balakr. in Journ. Bombay Nat. Hist. Soc. 63 : 329. 1967.——*A. stricta* auct., non Heyne ex DC.: Edgew. in Trans. Linn. Soc. 20 : 73. 1846.——*A. stricta* Edgew. f. *genuina* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 705. 1927.——*A. demissa* Krasch. in Act. Inst. Bot. Acad. Sci. URSS. 3 : 348. 1936. p. p.

var. 1. **edgeworthii**

china (S.-W.), N. India, Nepal, Kashmir.

var. 2. **diffusa** (Pamp.) Y. R. Ling in Act. Phytotax. Sin. 18(4): 509. 1980.——*A. stricta* Edgew. f. *diffusa* Pamp. l. c. 34 : 705. 1927.

China (S.-W.), N. India, Nepal, Kashmir.

271. **Artemisia pewzowi** C. Winkl. in Act. Hort. Petrop. 13(1) : 3. 1893.

China (S.-W. & N.-W.), USSR (Tadzh.).

Ser. 8. **Blepharolepides** Y. R. Ling in Bull. Bot. Res. 8(4) : 54. 1988.

272. **Artemisia blepharolepis** Bge. in Mem. Acad. Sci. Petersb. 7 : 340. 1854.

China (N.), Mongolia.

Sect. 8. **Latilobus** Y. R. Ling in Act. Phytotax. Sin. 18(4) : 512. 1980.

Ser. 1. **Boreales** Krasch. in Mat. Hist. Fl. Veg. 2 : 157. 1946.——*Artemisia*, Sect. *Boreales* Wendelb. in Biblioth. Bot. 125 : 49. 1960, incl. syn Ser. *Eu-Boreales* Krasch. & Ser. *Praeboreales* Krasch.

273. **Artemisia depauperata** Krasch. in Animadv. Syst. Herb. Univ.

Tomsk. 1(2) : 3. 1949.——*A. pycnorhiza* Ledeb. var. *depauperata* (Krasch.) Poljak. Fl. URSS 26 : 560. 1961.

China (N.-W.), Mongolia, USSR (C.).

274. **Artemisia bargusinensis** Spreng. Syst. Veg. 3 : 493. 1826.——*A. pallasii* Willd. ex Spreng. l. c. 3 : 493. 1826.——*A. borealis* Pall. var. *willdenovii* Bess. in Linnaea 15 : 96. 1841.——*A. borealis* auct., non Pall. : Liou & al. Key Pl. N.-E. China, 393, Tab. 135—9. 1959.——*A. borealis* Pall. var. *ledebouri* S. Y. Hu, in Quart. Journ. Taiwan Mus. 18(3—4) : 125. 1965, non Bess.——*Oligosporus bargusinensis* (Spreng.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 167. 1961.

China (N.), Mongolia, USSR (C. & E.).

275. **Artemisia desertorum** Spreng. Syst. Veg. 3 : 490. 1826.——*A. desertorum* Spreng. var. *sprengeliana* Bess. in Bull. Soc. Nat. Mosc. 8 : 65. 1835. ——*A. japonica* Thunb. var. *desertorum* Maxim. in Bull. Acad. Sci. Petersb. 8 : 526. 1872.——*A. desertorum* Spreng. var. *willdenowiana* Mattf. in Fedde, Rep. Sp. Nov. 22 : 242. 1926, non Bess. (＊17) ——*Oligosporus desertorum* (Spreng.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 167. 1961.

(＊17). also syn. *Artemisia kirilowii* Turcz.——*A. desertorum* Spreng. var. *kirilowii* (Turcz.) Maxim.

var. 1. **desertorum**

China (N., N.-E., C. & S.-W.), Japan, Korea, Mongolia, N. India, N. Pakistan, USSR (C. & E.).

var. 2. **tongolensis** Pamp. in Muov. Giorn. Bot. Ital. n. s. 34 : 651. 1927.

var. 3. *foetida* (Jacq. ex DC.) Ling & Y. R. Ling in Bull. Bot. Res. 8(4) : 55. 1988.——*A. foetida* Jacq. ex DC. Prodr. 6 : 98. 1837.——*A. desertorum* auct., non Spreng. : C. B. Clarke, Comp. Ind. 158. 1876. p. p.

China (S.-w.), N. India, N. Pakistan, Nepal.

China (S.-W.).

276. **Artemisia duthreuil-de-rhinsi** Krasch. in Not. Syst. Herb. Hort.

Petrop. 3 : 22. 1922.——*Oligosporus duthreuil-de-rhinsi* (Krasch.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 169. 1961.

China (N.-W. & S.-W.).

277. **Artemisia borealis** Pall. Reise 3 : 755. 1776.——*A. violacea* Ledeb. in Mem. Acad. Sci. Petersb. 5 : 567. 1812.——*A. spithamaea* Pursh. Fl. Amer. Sept. 2 : 522. 1814.——*A. nana* Gaud. Fl. Helv. 5 : 321. 1829.——*A. borealis* Pall. *purshii* Bess. in Hook. Fl. Bor. Amer. 1 : 326. 1833.——*A. campestris* Linn. var. *alpina* DC. Prodr. 6 : 96. 1837.——*A. borealis* Pall. var. *spithamaea* (Pursh.) Torr. & Gray Fl. N. Amer. 2 : 417. 1843.——*A. campestris* Linn. ssp. *alpina* (DC.) Arcang. Comp. Fl. Ital. 366. 1882.——*A. campestris* Linn. ssp. *spithamaea* Hall & Clements in N. Amer. Artem. 123. 1923.——*A. campestris* Linn. ssp. *borealis* Hegi, Ill. Fl. Mitt.-Europ. 6(2) : 669. 1929.——*A. remosa* Sugaw. Pl. Saghal. 364. 1937.——*A. borealis* Pall. var. *yamade* Kitam. in Act. Phytotax. Geobot. 5 : 93. 1935.——*A. insularis* Kitam. l. c. 5 : 93. 1935. (*18) ——*A. camtschatica* Schlechtd. ex Poljak. Fl. USSR 26 : 557. 1961, pro syn, in Herb. Berol. ——*Absinthium boreale* Bess. in Bull. Soc. Nat. Mosc. 1 : 265. 1829.——*Oligosporus borealis* (Pall.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 169. 1961.

(*18). also syn. *Artemisia borealis* Pall. var. *nana* Fritsch.

var. 1. **borealis**

N. Japan, USSR, Sweden, Denmark, Norway, Finland, Mountains of C. Europe, N. America.

var. 2. **ledebouri** Bess. in Bull. Soc. Nat. Mosc. 8 : 85. 1835.

USSR (E.).

var. 3. **mertensii** Bess. l. c. 8 : 87. 1835.

USSR (E.).

278. **Artemisia congesta** Kitam. in Act. Phytotax. Geobot. 5 : 93. 1936.

N. Japan.

279. **Artemisia henriettae** Krasch. in Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS 9 : 175. 1946.——*Oligosporus henriettae* (Krasch.) Poljak. in

Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

USSR (N.).

280. **Artemisia limosa** Koidz. in Sugaw. Pl. Saghal. 303. 1937.——*Oligosporus limosus* (Koidz.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

N. Japan, USSR (E.).

281. **Artemisia pycnorhiza** Ledeb. Fl. Alt. 4 : 79. 1833.——*A. borealis* Pall. var. *ledebourii* Fedtsch. Catal. Pl. Turkm. 4 : 192. 1911., non Bess. ——*Oligosporus pycnorhizus* (Ledeb.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

N.-W. Mongolia, USSR (C.).

Ser. 2. **Japonicae** Krasch. in Mat. Hist. Fl. Veg. 2 : 173. 1946.——*Artemisia*, Ser. *Chinenses* Krasch. l. c. 2 : 173. 1946.

282. **Artemisia eriopoda** Bge. in Mem. Acad. Sci. Petersb. 2 : 111. 1833. ——*A. desertorum* Spreng. var. *fontanesiana* Bess. in Bull. Soc. Nat. Mosc. 8 : 66. 1835.——*A. leucanthemifolia* Desf. ex DC. Prodr. 6 : 98. 1837, pro syn.——*A. japonica* Thunb. var. *eriopoda* Komar. Fl. Mansh. 3(2) : 657. 1907. ——*A. japonica* Thunb. var. *japonica* Maxim. f. *eriopoda* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 663 1927, incl. sf. *resedifolia* Pamp. & var. *rotundifolia* Debeaux f. *vestita* Pamp. l. c. 34 : 669. 1927. p. p., quoad. pl. Faurie, Japan.——*A. capillaris* Thunb. var. *scoparia* (Waldst. & Kit.) Pamp. f. *grandiflora* Pamp. l. c. 39 : 24. 1932.——*A. japonica* Thunb. f. *resedifolia* Takeda in Bot. Mag. Tokyo 25 : 22. 1911.——A. *pubescens* Ledeb. ssp *eriopoda* (Bge.) Kitam. Comp. Jap. 2 : 387. 1940.

var. 1. **eriopoda**

China (N.-E., N., C. & S.-W.), Japan, Koeea, E. Mongolia.

var. 2. **maritima** Ling & Y. R. Ling in Bull. Bot. Res. 8(3) : 6.1988.

China (sea-side of Shandong).

var. 3. **rotundifolia** (Debeaux) Ling & Y. R. Ling. l. c. 8(4): 56. 1988.——*A. japonica* Thunb. var. *rotundifolia* Debeaux Fl. Tchef. (in Act. Cherb.) 31: 81. 1876.——*A. japonica* Thunb. f. *rotundifolia* Franch. in Mem. Soc. Nat. Cherb. 34: 226. 1884.——*A. rotundifolia* (Debaux) Krasch. in Mat. Hist. Fl. Veg. 2: 174. 1946, nom nud.

China (Gansu, Shaanxi & Hobei).

var. 4. **shanxiensis** Y. R. Ljng in Bull. Bot. Res. 8(4): 57. 1988.

China (Shanxi).

283. **Artemisia littoricola** Kitam. in Act. Phytotax. Geobot. 5: 94. 1936.——*A. japonica* Thunb. var. *desertorum* Matsum. Ind. Pl. Jap. 2: 634. 1912, non Maxim.——*A. desertorum* auct., non Spreng.: Takeda in Bot. Mag. Tokyo 25: 21. 1911.——*A. japonica* Thunb. f. *resedifolia* Takeda in Bot. Mag. Tokyo 25: 22. 1911. p. p.——*A. japonica* Thunb. var. *macrocephala* Pamp. f. *sachalinensis* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34: 668. 1927.——*A. japonica* Thunb. var. *rotundifolia* Debeaux f. *vestita* Pamp. l. c. 34: 669. 1927. p. p.——*Oligosporus littoricolus* (Kitam.) Poljak. in Mat. Fl. Veg. Kaschg. 11: 167. 1961.

China (N.-E.), N. Japan, N. Koeea, USSR (E.).

284. **Artemisia manshurica** (Komar.) Komar. in Komar. & Alis. Key Pl. Far East. Reg. USSR 2: 1053; Tab. 308. 1932. ——*A. japonica* Thunb. var. *manshrica* Komar. Fl. Mansh. 3(2): 656. 1907.——*A. desertorum* Spreng. var. *sprengeliana* Bess. f. *helmiana* (Turcz.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34: 650. 1927. p. p., incl. syn. *A. japoncica* Thunb. var. *manshurica* Komar.——*A. japonica* auct., non Thunb.: Kitam. Comp. Jap. 2: 384. 1940. p. p. —— *A. desertorum* auct., non Spreng.: Poljak. Fl. URSS 26: 549. 1961. p. p.

Chiaa (N.-E.), N. Korea, USSR(E.).

285. **Artemisia japonica** Thunb. Fl. Jap. 308. 1784.——*A. glabrata* Wall. ex Bess. in Bull. Soc. Nat. Mosc. 8: 20. 1835.——*A. cuneifolia* DC. Prodr. 6: 126. 1837.——*A. japonica* Thunb. var. *japonica* Maxim. in Bull. Ac-

ad. Sci. Petersb. 8 : 526. 1872, excl. syn. ——*A. dracunculus* auct., non Linn. : Hook. f. Fl. Brit. Ind. 3 : 321. 1881. p. p. ——*A. parviflora* auct., non Buch.-Ham. ex Roxb. : Hook. f. l. c. 3 : 322. 1881.——*A. jacquemontiana* auct., non Bess. : Hook. f. l. c. 3 : 322. 1881. p. p., pro syn.——*A. decaisnei* Klatt in Abh. Naturf. Ges. Halle 15 : 329. 1882. ——*A. japonica* Thunb. var. *myriocephala* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 665. 1927.——*A. morrisonensis* Hayata var. *minima* Pamp. l. c. 34 : 682. 1927.——*A. subintegra* Kitam in Act. Phytotax. Geobot. 3 : 173. 1934.——*A. japonica* Thunb. var. *lanata* Pamp. in Rend. Sem. Fac. Sci. Univ. Cagl. 8 : 3. 1938.——*Chrysanthemum japonicum* Thunb. l. c. 321. 1784.——*Oligosporus japonicus* (Thunb.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 167. 1961.

var. 1. **japonica**

China (except N.-W.), Japan, Korea, Indo-China, Philippine, N. Thailand, N. Burma, N. India, Bhutan, Nepal, Kashmir, Afghanistan, USSR(E.).

var. 2. **hainanensis** Y. R. Ling in Bull. Bot. Res. 8(4) : 58. 1988.

China (Hainan).

286. **Artemisia parviflora** Buch.-Ham. in Roxb. Hort. Beng. 61. 1814, nom. nud., Fl. Ind. 3 : 420. 1832, nom. conserv.——*A. glabrata* auct., non Wall. ex Bess. : Wight, Ic. Pl. Ind. Or. 3 : fig. 1111. 1846.——*A. tongtchouanensis* Levl. in Fedde, Rep. Sp. Nov. 11 : 304. 1912.——*A. japonica* Thunb. var. *japonica* Maxim. f. *eriopoda* Pamp. sf. *tongtchouanensis* (Levl.) Pamp. & var. *parviflora* (Buch.-Ham. ex Roxb.) Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 664—665. 1927.—— *A. subdigitata* auct., non Mattf. : Kitam. in Kihara, Fau. Fl. Nep. Himal. 1 : 246. 1952-53.——*Oligosporus parviflorus* (Buch.-Ham. ex Roxb.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 170. 1961.

China (S.-W.), N. Thailand, N. India, N. Pakistan, Bhutan, Nepal, Kashmir.

287. **Artemisia angustissima** Nakai in Bot. Mag. Tokgo 29 : 7. 1915.——*A. japonica* Thunb. var. *angustissima* (Nakai) Kitam. Comp. Jap. 2 : 386. 1940.——*A. japonica* Thunb. var. *japonica* Maxim. f. *eriopoda* Pamp. sf.

angustissima Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 665.1927.

China (N.-E.), Korea.

288. **Artemisia hancei** (Pamp.) Ling & Y. R. Ling in Bull. Bot. Res. 4(2) : 26, fig. 8. 1984. ——*A. hallaisanensis* Nakai var. *hancei* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 659. 1927.

China (S. Guangdong & Hainan), Indo-China.

289. **Artemisia hallaisanensis** Nakai in Bot. Mag. Tokyo 29 : 4. 1915.—— *Artemisia hallaisanensis* Nakai var. *typica Pamp* Giorn.Bot. Ital. n.s. 34 : 657. 1927.——*A. japonica* Thunb. var. *hallaisanensis in Nuov.* (Nakai) Kitam. Comp. Jap. 2 : 386. 1940.

Korea.

Ser. 3. **Phaeocephalae** Krasch. in Mat. Hist. Fl. Veg. 2 : 182. 1946.

290. **Artemisia nanschanica** Krasch. in Not. Syst. Herb. Hort. Petrop. 3 : 19. 1922.

China (N.-W. & S.-W.).

Ser. 4. **Pengchuoenses** Y. R. Ling in Bull. Bot. Rest Res. 8(4) : 59. 1988.

291. **Artemisia pengchuoensis** Y. R. Ling & S. Y. Zhao in Bull. Bot. Res. 5(2) : 11, fig. 15. 1985.

China (Sichuan).

Ser. 5. **Subdigitatae** Krasch. in Mat. Hist. Fl Veg. 2 : 176. 1946.

292. **Artemisia dubia** Wall. ex Bess. in Nouv. Mem Soc. Nat. Mosc. 3 : 39. 1834.——*A. vulgaris* auct., non Linn. : Hook. f. Fl. Brit. Ind. 3 : 325. 1881. p. p., quoad syn. *A. dubia* Wall. ex Bess. —— *A. subdigitata* Mattf. in Fedde, Rep. Sp. Nov. 22 : 243. 1926. p. p. —— *A. dracunculus* Linn. var. *inodora* Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 653. 1927.

p. p., quoad pl. C. B. Clarke, non Bess. ——*A. dracunculus* Linn. var. *subdigitata* (Mattf.) Pamp. f. *thomsonii* Pamp. l. c. 36 : 379. 1929, incl. syn. *A. thomsonii* C. B. Clarke ex Pamp. cum f. *chinensis* Pamp. p. p. ——*A. subdigitata* Mattf. var. *thomsonii* (C. B. Clarke) S. Y. Hu, in Quart. Journ. Taiwan Mus. 18 (3—4) : 263. 1965.

var. 1. **dubia**

China (S. Nei Monggol, S. Gansu, N.-W. Guangxi & S.-W. Prov.), N. India, Bhutan, Nepal.

var. 2. **subdigitata** (Mattf.) Y. R. Ling in Kew Bull. 42(2) : 445.1987. ——*A. jacquemontiana* Bess. in Bull. Soc. Nat. Mosc. 8 : 61. 1835. p. p., incl. syn. *A. glabra* Jacq. ex Bess. & *A. cannabina* Jacq. ex Bess. ——*A.* dracunculus Linn. var. indnra Bess. l. c. 8 : 55. 1835. p. p. —— A. *royleana* DC. Prodr. 6 : 115. 1837. ——*A. desertorum* auct., non Spreng. : Hook. f. Fl. Brit. Ind. 3 : 332. 1881. p. p.——*A. glauca* auct., non Pall. : Hook. f. l. c. 3 : 332. 1881.——*A. dubia* Well. ex Bess. var. *jacquemontiana* (Bess.) Pamp. l. c. 33 : 451. 1926.——*A. subdigitata* Mattf. l. c. 22 : 243. 1926. p. p., incl. var. *falciloba* Mattf.——*A. foetida* auct., non Jacq. ex DC. : Pamp. l. c. 34 : 654. 1927. p. p.——*A. dracunculus* Linn. var. *inodora* Bess. f. *pinnata* Pamp. & var. *subdigitata* Pamp., incl. f. *chinensis* Pamp. , f. *falciloba* Pamp. & f. *intermedia* Pamp. cum sf. *oiblonga* Pamp. l. c. 36 : 379—381. 1929. —— *A. subdigitata* Mattf. var. *intermedia* Kitag. Lineam. Fl. Mansh. 343. 1939. ——*A. wulingshanensis* Bar. & Skv. in Liou & al. Key Pl. N.-E. China 393. Tab. 136—1. 1959. ——*Oligosporus jacquemontiana* (Bess.) Poljak. in Mat. Fl. Veg. Kaschg. 11 : 168. 1961.

China (N., C. & S.-W), N. India, Bhutan, Nepal.

Ser. 6. **Giraldianae** Y. R. Ling in Bull. Bot. Res. 8(4) : 60. 1988.

293. **Artemisia tridactyla** Hand.-Maazz. in Act. Hort. Gothob. 12 : 275. 1938.

var. 1. **tridactyla**

China (W. Sichuan & E. Xizng).

var. 2. **minima** Y. R. Ling in Bull. Bot. Res. 8(3) : 7. 1988.

China (E. Xizang).

294. **Artemisia giraldii** Pamp. in Nuov. Giorn. Bot. Ital. n. s. 34 : 657. 1927.——*A. dracunculus* Linn. var. *subdigitata* (Mattf.) Pamp. f. *chinensis* Pamp. & f. *falciloba* Pamp. l. c. 36 : 380. 1929. p. p. ——*Oligosporus giraldii* (Pamp.) Poljak. in Mat. Fl. Veg. Kasch. 11 : 169. 1961.

var. 1. **giraldii**

China (N.).

var. 2. **longipedunculata** Y. R. Ling in Bull. Bot. Res. 8(3) : 7. 1988.

China (Shaanxi).

295. **Artemisia conaensis** Ling & Y. R. Ling in Act. Phytotax. Sin. 18(4) : 511, fig. 9. 1980.

China (E. Xizang & W. Sichuan).

Sect. 9. **Turaniphytum** (Poljak.) Y. R. Ling in Bull. Bot. Res. 2(2) : 14. 1982.——*Turaniphytum* Poljak. URSS 26 : 632, 880. 1961.

Ser. 1. **Turaniphytum**——*Artemisia*, Sect. *Eranthemae* Krasch. in Mat. Hist. Fl. Veg. 2 : 190. 1946.

296. **Artemisia eranthema** Bge. in Mem. Acad. Sci. Petersb. 7 : 339. 1854.——*Turaniphytum eranthemum* (Bge.) Poljak. Fl. URSS 26 : 635. 1961.

USSR (C. Asia).

297 **Artemisia codringtonii** Rech. f. in Oest. Bot. Zeits. 47 : 233. 1950. (*19)

(*19). also syn. *Turaniphytum codringtonii* (Rech. f.) Rovleds.

Afghanistan.

Ser. 2. **Kopetdaghenses** Y. R. Ling ser. nov.

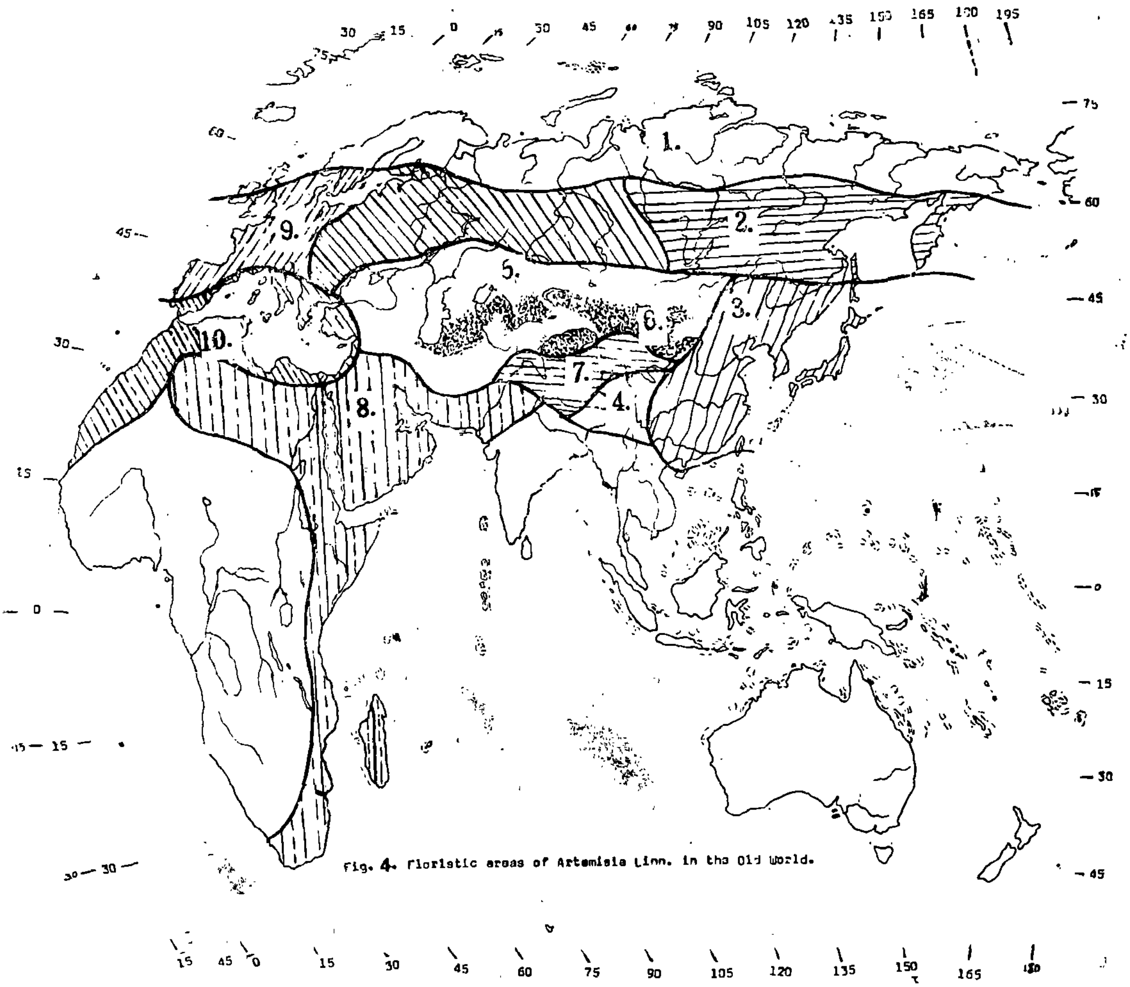
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Fig. 4. Floristic areas of Artemisia Linn. in the Old World.

Fig. 4. Floristic areas of **Artemisia** Linn. in the Old World

1. Subholarctic subkingdom,
2. East Sibiria——Far East subkingdom,
3. Eastern Asia forest subkingdom,
4. Hengduang——Himalayan Mts. forest subkingdom
5. Eurasia steppe or semidesert-steppe subkingdom,
6. Asia desert (C. Asia——W. Asia) (The Ancient Mediterranean) subkingdom,
7. Qinghai-Xizang plateau subkingdom,
8. S.-W. Asia——Arab——Africa tropical desert and savanna subkingdom,
9. West and Central European steppe and forest-steppe subkingdom,
10. S. Europe——the Mediterranean——W. & N.-W. African savanna subkingdom.

298. **Astemisia kopetdaghensis** (Poljak.) Y. R. Ling comb. nov.—— *Turaniphytum kopetdaghense* Poljak. Fl. URSS 26: 636. 881. 1961.

Iran, USSR (C. Asia).

The Floristic Geography of Artemisia Linn. in the Old World (Tab. 2. & fig. 4.)

Paleopollen grains have shown that the earliest ancestor of *Artemisia* Linn. was found in the forest-steppe area of N. Asia in the middle of the Tertiary Age. That means, N. Asia would be the primitive centre of speciation of *Artemisia* Linn. From that on, the species of the genus would be raised and derived from the ancestor, when the species were migraring around, especially towards the east, the west and even the south in N. Hemisphere, before Ice Age was coming. During the Age many species of *Artemisia* Linn. died, but a few species migrated towards the south, and oppsitely to the north or higher altitudes aftet Ice Age. Nevertheless, new species of the genus had been deriving and increasing in migration and at the temperate area of N. Eurasia, especially N. Asia, where, perhaps, was the main migrated down or up routes, and there have kept more than 180 species of *Artemisia* Linn. now. So it's one of the present massest distributional centre of the genus. However, the area of Hengduang-Himalayan Mts., so-called "Hengduang-Himalayan Mts. forest subkingdom" by Floristic Point of View, would be a special area by the "Himalayan Movement" and "Folding Hengduang Mts." made. It's various and complicated in the topography and climate, and it became a refuge of Artemisia Linn. in the Ice Age. Many species, included the Ancient Tertiary endemic species, migrated there at that time, and after Ice Age som species moved towards higher altitudes there and many species, which are the regional endemics now, were derived from the ancestral and survival species in the different regional areas during or after Ice Age. Now there are 118 species of the genus in the area, and most of them are the regional endemic species. Only a few are the Tertiary ancient endemic species or more wide-distributional species. So it's either the secondary centre of speciation or another one of divergent, developmental and so-called "the second" present massest distributional centres of the genus, and there are many vicarious species in comparison with that in N.

Asia, in the area now.

From the floristic point of view, most of the species of *Artemisia* Linn. in the Old World are belonged to the Holarctic Kingdom, only a few species distribute extensively to the areas of Palaeotropic Kingdom, as in S. Asia and in N., E. & S. Africa or widely distribute to N. America of the New World. The species of the genus in the Old World can be divided into 10 subkingdoms and 28 regions (Tab. 2.). The regionizations are as follows:

1. Subholarctic subkingdom. It's around the subholarctic area, included the plain of the lower reaches of rivers in N. Asia, N. Europe, and even in N.-W. America, where those are the cold wilderness or cold desert-steppe area. Most species of *Artemisia* Linn., which distributed there, would be derived from ancestral species of the genus when the species migrated from the speciation centre after Ice Age, a few were born in Ice Age, and now all resident species, included some Tertiary ancient endemic and primitive species, are suitable for the cold and drought in physiology circumstances.

1). Circumboreal (Subholarctic) region: This is the area surrounding N. Asia-Europe-America. The species are *A. tilesii* Ledeb., *A. stelleriana* Bess. and *A. borealis* Pall. As fact, they are widerly distributional species around there.

2). N. Asia subholarctic region: That's located at N. Asia. The species of the genus, distributed there, are the regional endemic species now, as in *A. triniana* Bess., *A. samoiedorum* Pamp., *A. flava* Jurtz., *A. dracunculiformis* Krasch. and *A. henriettae* Krasch. etc.

3). N.-E. Asia——N.-W. America subholarctic region: It's aroound N.-E. Asia, especially the Far East of USSR and N.-W. America, especially Alaska. The species of *Artemisia* Linn. had distributed there before two Continents separated. Now they are discontinuously distributed, as the species, *A. laciliatiformis* Komar., *A. arctica* Less., *A. glomerata* Ledeb., *A. globularia* Cham. ex Bess. *A. furcata* MB. and *A. unalaskensis* Rydb. etc.

4). Eurasia subholarctic region: This is the area at the North Europe, included a part of N. United Kingdom, the countries in Scandinavia Peninsula, N. Europe region and N. Sibiria of USSR. *A. norvegica* Fries. is the representative there.

2. East Sidiria——Far East subkingdom. This the area of N.-E. Asian Mountains with Taica forest or forest-steppe vegetations. It's a semi-moist and cold or a little drought in physiology. The species of *Artemisia* Linn. are always distributed beside the forest or wilderness and now they become a dominant or subdominant elements in the vegetations. In the west of the area it would be the "cradle", the primitive centre of speciation of *Artemisia* Linn., because the paleopollen grains of the genus have been found earliestly there in theemiddle of Tertiary Age and many primitive species, especially the Tertiary ancient endemic species still keep around the area now. Only a few species extended towards S. Sibiria and a part of N., N.-E & N.-W. China.

5). East Sibiria region: It's mainly located at E. Sibiria of USSR, and a part of N, N.-E. & N.-W. China. There reserve many primitive species, especially those from Sect. *Absinthium* DC. and Sect. *Abrotanum* Bess., such as *A. macrocephala* Jacq. ex Bess., *A. cuspidata* Krasch., *A. schmidtiana* Maxim., *A. martzanovii* Krasch. ex Poljak., *A. jacutica* Drob., *A. palustris* Linn. and *A. aurata* Komar. etc. and the species from other sections are at the south of the region, such as *A. koidzumii* Nakai, *A. saitoana* Kitam., *A. integrifolia* Linn., *A. subulata* Nakai, *A. montana* Pamp., *A. adamsii* Bess., *A. freyniana* (Pamp.) Krasch., *A. medioxima* Kcasch. ex Poljak,, *A. remotiloba* Krasch. ex Poljak., *A. punctigera* Krasch. ex Poljak. and *A. leontopodioides* Fisch. ex Bess. etc.

6). Far East——N. Japan region: The area included the Far Fast and Kamtchatica Peninsula of USSR and N. Japan, as well as a part of N.-E. China, where it is with forest or with a little forest-steppe vegetations. The species of the genus would distribute beside the forest, forest-steppe or in wilderness. *A. lagocephala* (Fisch. ex Bess.) DC., *A. opulenta* Pamp., *A. ussuriensis* Poljak., *A. maximoviczana* Krasch. ex Poljak., *A. macrorhiza* Turcz. ex Bess., *A. insulana* Krasch., *A. senjavinensis* Bess., *A. lagopus* Fisch. ex Bess., *A. pannosa* Krasch. and *A. limosa* Koidz. are the representations. In addition, there some regional endemic species, as *A. olgensis* (Vorob.) Vorosh, in Far East of USSR, *A. komarovii* Poljak. and *A. subviscosa* Turcz. ex Bess. in Dahuria of USSR, and *A. ledebouriana* Bess., *A. bejbemaniae* Leonova, *A. olchonensis* Leonova and *A. transbaicalensis* Leonva in Baical area, and *A. kitadakensis* Hara & Kitam. in N. Japan etc.

3. Eastern Asia forest subkingdom. That's located at E. Asia, included N, N.-E., C. & E. China, Korea, Japan and a part of E. & S.-E. Mongolia. It's a typical forest vegetation area, included the deciduous or evergreen coniferous and broad-leaf or mixed both of above forests from the north to the south of the area. Most species of *Artemisia* Linn., distributed there, would be derived from the ancestor, when the species migrated or extended from the centre of speciation of the genus towards S. & S.-E. Asia during Ice Age and now most of the species usually distribute beside the forest or in the wilderness。 and many species in this subkingdom are the vicarious of the former subkingdom now.

7). N.-E. & N. Chin——N. Korea——N. Japan region: The area located mainly at N.-E. and a part of N. China, N. Korea and N. Japan, a part of S.-E. Sibiria of USSR and E. Mongolia. That's the temperate and mixed N. subtropical areas with coniferous and deciduous broad-leaf forest vegetations or mixed a part of forest-steppe. The species of *Artemsia* Linn. are resistant for cold, but moist circu stances. The representations of it are *A. latifolia* Ledeb., *A. stolonifera* (Maxim.) Komar., *A. lavandulaefolia* DC., *A. mongolica* (Fisch. ex Bess.) Nakai, *A. rubripes* Nakai, *A. igniaria* Maxim., *A. brachyphylla* Kitam., *A. keiskeana* Miq., *A. viridissima* (Komar.) Pamp., *A. pubescens* Ledeb. *A. littoricola* Komar. and *A. manshurica* (Komar.) Komar. etc. Besides, *A. sinanensis* Yabe, *A. tsuneoi* Tatew. & Kitam., *A. monophylla* Kitam. and *A. congesta* Kitam. etc. are the regional endemic species. in Japan.

8). E. & C. China——Korea——Japan region: The area included E. and a part of C. China, S. Korea and Japan. It's a typical, Subtropical broad-leaf forest vegetation with deciduous or evergreen forest and mixed some evergreen coniferous forest in the mountains. The species of *Artemisia* Linn., distributed there, are responsible to warmer and moist circumstances. *A. fukudo* Makino, *A. gilvescens* Miq., *A. princeps*

Pamp., *A. argyi* Levl. & Van., *A. carvifolia* Buch.-Ham. ex Roxb., *A. selengensis* Turcz. ex Bess., *A. lancea* Van., *A. sylvatica* Maxim., *A. capillaris* Thunb., *A. eriopoda* Bge., *A. japonica* Thunb., *A. fauriei* Nakai, *A. hallaisanensis* Nakai, *A. pedunculosa* Miq. etc. and the regional endemic species, *A. angustissima* Nakai, *A. chienshanica* Ling & W. Wang. and *A. momiyamae* Kitam. etc. are all the representations in the region.

9). N. -C. China oblique exchange-convergence region: That is an exchange-convergence area among the Eurasia steppe or semidesert-steppe subkingdom, Eastern Asia forest subkingdom, Qinghai-Xizang Plateau subkingdom and Hengduang-Himalayan Mts. forest subkingdom from S. Nei Monggol oblique until N. Hengduang Mts. So the species of *Artemisia* Linn. are responsible to "semi-drought" and "semi-moist" circumstances and there the species of the genus are usually distributed extensively from or to above areas, as the species, *A. dubia* Wall. ex Bess., *A. verbenacea* (Komar.) Kitag., *A. divaricata* (Pamp.) Pamp. and *A. viridisquama* Kitam. etc. are the representations. Besides, a few are the regional endemic species, as *A. taibaishanensis* Y. R. Ling & C. J. Humphries, *A. kanashiroi* Kitam., *A. orientali-yunnanensis* Y. R. Ling, *A. shangnanensis* Ling & Y. R. Ling, *A. qinlingensis* Ling & Y. R. Ling, A. deversa Diels, *A. giraldii* Pamp. and *A. shennongjiaensis* Ling & Y. R. Ling etc.

10). Taiwan mountain regional endemic region: The species were solitaryly developed in the mountains of Taiwan after the ancestral species had migrated into Taiwan before Taiwan Island separated from Asia Continent. So those are some mountain endemic species now, such as *A. niitakayamensis* Hayata, *A. tsugitakaensis* (Kitam.) Ling & Y. R. Ling, *A. kawakamii* Hayata, *A. somai* Hayata, *A. morrisonensis* Hayata and *A. oligocarpa* Hayata etc., unless a few widely distributional species from land to the Island.

11). S. & S.-E. China and S.-E. Asia region: That includes the area of S. & S.-E. China and in the mountains of S.-E. Asian countries with many S. subtropical and mixed a little tropical evergreen broad-leaf forest vegetations. The species of *Artemisia* Linn., of course, are responsible to the warm and moist circumstances, and many typical species of the genus are from Sect. *Albibractea* Y. R. Ling, such as *A. lactiflora* Wall. ex DC. and *A. anomala* S. Moore etc., except some wider distributional species from Sect. *Artemisia*, Sect. *Dracunculus* Bess. and Sect. *Latilobus* Y. R. Ling etc. From the area some of species also distribute to S. Qinling Mts. in C. China or towards the mountains of countries in S. & S.-E. Asia. Besides, the regional endemic species, as *A. hancei* (Pamp.) Ling & Y. R. Ling, distribute at S. Guangdong and Hainan in China and N. Indo-China and *A. javanica* Pamp. in the mountains of Java.

4. Hengduang——Himalayan Mts. forest subkingdom. This is a special mountain forest area, as the result of "Himalayan Movement" and "folding Hengduang Mts." made, with many peaks and deep canyons for the topography, and with a big changes of the climate, especially the temperature either between days and nights or in the Summer and the Winter. There have the tropical and subtropical rain and evergreen forest vegetations in lower altitudes and deciduous forests, coniferous forests, Rhododendron shrubs or alpine shrubs and steppes in higher altitudes. Besides, there are small savanna and semi-savanna vegetations besides the valleys of the rivers. There, *Artemisia* Linn. would mainly derived from the ancestor of Eastern Asia subkingdom or a little from Eurasia steppe or semidesert-steppe subkingdom during or after Ice Age. So many are the regional endemic species, especially the species from Sect. *Viscidipubes* Y. R. Ling of the genus and many are the vicarious of above subkingdom.

12). W. Sichuan——N.-W. Yunnan subalpine or alpine region: This is mainly at Hengduang Mts. area. The species of the genus distribute mainly at the subalpine or alpine, a few only in the lower altitudes. As in *A. vestita* Wall. ex Bess., *A. calophylla* Pamp., *A. velutina* Pamp., *A. roxburghiana* Wall. ex Bess., *A. robusta* (Pamp.) Ling & Y. R. Ling, *A. occidentali-sinensis* Y. R. Ling, *A. phyllobotrys* (Hand.-Mazz.) Ling & Y. R. Ling, *A. incisa* Pamp., *A. nilagirica* (C. B. Clarke) Pamp., *A. moorcroftiana* Wall. ex DC., *A. abaensis* Y. R. Ling & S. Y. Zhao, *A. tainingensis* Hand.-Mazz., *A. comaiensis* Ling & Y. R. Ling, *A. orientali-hengduangensis* Ling & Y. R. Ling, *A. sinensis* (Pamp.) Ling & Y. R. Ling *A. imponens* Pamp., *A. smithii* Mattf., *A. speciosa* (Pamp.) Ling & Y. R. Ling, *A. zhongdianensis* Y. R. Ling, *A. fulgens* Pamp., *A. viscida* Pamp., *A. vexans* Pamp., *A. thellungiana* Pamp., *A. gongshanensis* Y. R. Ling & C.

J. Humphries, *A. mattfeldii* Pamp., *A. occidentali-sichuanensis* Y. R. Ling & S. Y. Zhao, *A. erlangshanensis* Ling & Y. R. Ling, *A. atrovirens* Hand.-Mazz., *A. chingii* Pamp., *A. simulens* Pamp., *A. emeiensis* Y. R. Ling, *A. gyitangensis* Ling & Y. R. Ling, *A. myriantha* Wall. ex Bess., *A. flaccida* Hand.-Mazz., *A. boreali-siamensis* Y. R. Ling, *A. sichuanensis* Ling & Y. R. Ling, *A. rosthornii* Pamp. *A. tangutica* Pamp., *A. pratii* (Pamp.) Ling & Y. R. Ling, *A. waltonii* J. R. Drumm. ex Pamp., *A. forrestii* W. W. Smith, *A. mairei* Levl., *A. duthreuil-de-rhinsii* Krasch., *A. parviflora* Buch.-Ham. ex Roxb., *A. pengchuoensis* Y. R. Ling & S. Y. Zhao, *A. edgeworthii* Blakr. and *A. tridactyla* Hand.-Mazz. etc.

13). Eastern Xizang region : This is at E. Himalayan Mts. area, i. e. the South Asian alpine and subalpine with middle and high altitudes areas. The species of *Artemisia* Linn., distributed there, are the regional endemic species in different altitudes, those are *A. succulentoides* Ling & Y. R. Ling, *A. tafeili* Mattf., *A. orientali-xizangensis* Y. R. Ling & C. J. Humphries, *A. jilongensis* Y. R. Ling & C. J. Humphries, *A. nortonii* Pamp., *A. viscidissima* Ling & Y. R. Ling, *A. zayuensis* Ling & Y. R. Ling, *A. yadongensis* Ling & Y. R. Ling, *A. kangmaensis* Ling & Y. R. Ling and *A. conaensis* Ling & Y. R. Ling. etc.

14). The islet region of the valleys of Nujiang, Lancangjiang and Yuanjiang (Rivers). That's the islet region along the valleys of the Rivers of Nujiang, Lancangjiang and Yuanjiang, and it's at lower or middle altitudes area with savanna or semi-savanna vegetations. The representations, *A. yunnanensis* J. F. Jeffrey ex Diels, *A. nujianensis* (Ling & Y. R. Ling) Y. R. Ling and *A. austro-yunnanensis* Ling & Y. R. Ling etc. are growing well. at drought and warm circumstances there.

15). The South Himalayan Mts. region : It's located at S.-E. and S. Himalayan Mts. and N. plateau of S. Asia. Of course, the circumstaces have been under the influence of S.-W. Himalayana Mts. and the Plateau of S. Asia. There are 4 endemic species, *A. pallens* Wall. ex Bess., *A. filiformilobulata* Y. R. Ling & H. S. Puri, *A. austro-himalayaensis* Y. R. Ling & H. S. Puri and *A. tukuchaensis* Kitam. etc. at the **region.**

5. Eurasia steppe or semidesert-steppe subkingdom. The area inclu-

des E. Europe, C. Asia, W. Sibiria and a part of Altai Mountains in USSR, N.-W. China and W. Mongolia with pure or drought steppe, incl. the alpine, subalpine and semidesert-steppe vegetations. The species of the genus were developed from the species of primitive centre of speciation, but those migrated towards a little drought circumstances and now the species would become the dominant or subdominant elements in the vegetations there and the relationship of the species and the floristic elements are closely with the East Sibiria——Far East subkingdom.

16). C. Asia (East) ——Mongolia (West) steppe or semidesertsteppe region: The species of *Artemisia* Linn. in the region, usually are the dominant or subdominant elements in the vegetations and some of the species are the Tertiary endemics and primitives, which migrated from primitive centre of speciation, but many are more advanced, which derived from the ancestor of primitive species later. The representations include *A. sieversiana* Ehrh. ex Willd., *A. sericea* Web. ex Stechm., *A. aschurbajewii* C. Winckl., *A. octusiloba* Ledeb., *A. disjuncta* Krasch., *A. anethoides* Mattf., *A. macrantha* Ledeb., *A. argyrophylla* Ledeb., *A. rutaefolia* Steph. ex Spreng., *A. gmelinii* Web. ex Stechm., *A. phaeolepis* Krasch., *A. pontica* Linn., *A. tournefortiana* Reichb., *A. anethifolia* Web. ex Stechm., *A. austriaca* Jacp., *A. brachyloba* Franch., *A. leucophylla* (Turcz. ex Bess.) C. B. Clarke, *A. depauperata* Krasch., *A. glauca* Pall. ex Willd., *A. kelleri* Krasch., *A. globosa* Krasch., *A. kopetdaghensis* (Poljak.) Y. R. Ling, *A. pycnorhiza* Ledeb., *A. kuschakewiczii* C. Winkl., *A. marschalliana* Spreng., *A. ordosica* Krasch., *A. oxycephala* Kitag. and *A. desertorum* Spreng. Besides, a few are the regional endemic species, as *A. polybotryoidea* Y. R. Ling, *A. aksaiensis* Y. R. Ling, *A. baimaensis* Y.R.Ling & Z. C. Zhuo, *A. gansuensis* Ling & Y. R. Ling, *A. globosoides* Ling & Z. R. Ling, *A. klementzae* Krasch., *A. macilenta* Krasch. and *A. blepharolepis* Bge. etc.

17). W. Sibiria——E. Europe steppe region: That is the pure steppe or mixed a little forest-steppe vegetation areas. Those were derived from that of primitive centre of speciation of *Artemisia* Linn. and there have kept some primitives now. *A. rupestris* Linn., *A. hololeuca* MB. ex Bess., *A. armeniaca* Lam., *A. glabella* Kar. & Kir., *A. trautvetteriana* Bess., *A. lipskyi* Poljak. and *A. bargusinensis* Spreng. etc. are the representations there.

18). Altai mountain steppe region: That's a mountain steppe vegetation, but there the species of the genus are the regional endemic species too, such as *A. altaiensis* Krasch. and *A. caespitosa* Ledeb., etc.

6. Asia desert (C. Asia——W. Asia) (The Ancient Mediterranean) subkingdom. That is a desert with a little semidesert circumstance. The species of *Artemisia* Linn., are the cold-drought-resistant species. Perhaps those were derived from the ancestral species, which migrated from steppe towards more drought and colder circumstances.

19), C. Asia——W. Asia desert region: That's a temperate desert region and covered with C. Asia of USSR, N.-W. China, W. & C. Mongolia and a part of the countries of W. Asia. The species of *Artemisia* Linn. are mostly islet distributions there and some are the regional endemics *A. haussknechtii* Boiss., *A. xerophytica* Krasch., *A. succulenta* Ledeb., *A. pzrewalskii* Krasch., *A. albicerata* Krasch., *A. tomentella* Trautv., *A. eranthema* Bge., *A. quinqueloba* Traut., *A. dimoana* M. Pop., *A. salsoloides* Willd., *A. tschernieviana* Bess., *A. songarica* Schrenk., *A. sphaerocephala* Krasch., *A. halodendron* Turcz. ex Bess., *A. wudanica* Liou & W. Wang, *A. xanthochloa* Krasch. and *A. saposhnikovii* Krasch. ex Poljak. etc. are the representations.

20). Pamir, Alai——W. Kulum, W. Himalaya region: As fact, it's a part of the extended area of Eurasia steppe or semidesert-steppe subkingdom, but the species of the genus were derived from the ancestor which migrated towards more drought and colddesert circumstance at plateau, and now those are the endemic species with anti-drought in physiology, as *A. persica* Boiss., *A. alchokii* Pamp., *A. amygdalina* Decne., *A. jaxatica* Poljak., *A. nuristanica* Kitam., *A. pewzowii* C. Wincl. and *A. codringtonii* Rech. f. etc.

21). Caucasus exchange-convergence region: That's exchange-convergence area among the Eurasia steppe, Asia desert and S. Europe——the Mediterranean, as well as S.-W. Asia→Arab→Africa tropical desert and savanna areas. But the species of *Artemisia* Linn., distributed there, are the regional endemics, as *A. splendens* Willd., *A. incana* (Linn.) Druce, *A. eldarica* Rzazad. and *A. daghestanica* Krasch. & Por. etc.

7. Qinghai-Xizang plateau subkingdom. That's the typical cold desert at plateau and it's an "everwinter" circumstance, where the auerage altitude is more than 3,500—4,500m and the average temperature of whole year is below OOC. The vegetation is mainly plateau and cold-desert, -steppe or-shrubs and the species of the genus, of course, with resistance of cold and drought in physiology and, perhaps, those are as the result of developing mainly from the ancestor of that from Asia desert subkingdom or a part of them from E. Xizang region of Hengduang-Himalayan Mts. forest subkingdom.

22). Tangut region: That's located at N.-W. & N. Xizang and S.-W. Qinghai of China, a subalpine or with a little alpine, but cold-desert circumstances. The species of Artemisia Linn. usually are the dominant or subdomiant elements of the vegetation there, as in *A. hedinii* Ostenf. & Pauls., *A. dalai-lamae* Krasch., *A. demissa* Krasch. and *A. nanschanica* Krasch. etc. Besides, the regional endemic species is *A. yongii* Y. R. Ling.

23). Chiangtang Plateau——Gangdis Mts. region: That's at W., C. & S.-W. Xizang of China, the alpine desert area. The species of *Artemisia* Linn. are the dominant species in the vegetation. Those are *A. minor* Jacq. ex DC., *A. younghusbandii* J. R. Drumm. ex Pamp., *A. stracheyi* Hook. f. & Thoms. ex C. B. Clarke, *A. campbelii* Hook. f. & Thoms. ex C. B. Clarke, *A. wellbyi* Hemsl. & Pears. ex Deasy, *A. gyangzeensis* Ling & Y. R. Ling and *A. xigazeensis* Ling & Y. R. Ling etc.

8. S.-W. Asia——Arab——Africa tropical desert and savanna subkingdom. That locates at S.-W. Asia, a part of W. Iran, Arabian Penisula, N., E. & a part of S. Africa, a part of S. Europe and the Islands in the E. Mediterranean. It's an advanced subkingdom with the species derived from the ancestor in Asia desert subkingdom, but towards the tropical desert or savanna or semi-savanna areas. So there are some advanced and vicarious from the Asia desert subkingdom.

24). S.-W. Asia——Arab——N. & N.-E. Africa desert and savanna region: That's a tropical desert, but with a part of savanna vegetation. The species of the genus are drought-resistant in the circumstances. *A. arborescens* Lob. ex Linn., *A. gorgonum* Web., *A. maroccana* Coss., *A. ditachensis* Coss. ex Batt. & Trab. and *A. monosperma* Del. etc. are the representations.

25). E. & S. Africa savanna region: That's mainly a tropical savanna, but mixed a part of desert, vegetations. *A. abyssinica* Sch.-Bip. ex Liv. & Hiern., *A. afra* Jacq. and *A. judaica* Linn. etc. are in the region.

9. West and Central European steppe and forest-steppe subkingdom. That was the development from the Eurasia steppe or semidesert-steppe subkingdom in W. & C. European plain and mountains. The species of the genus are usually as the dominant or subdominant elements in the vegetations and with many vicarious from above subkingdom. Besides, a fewspecies are at wilderness or nearby the forest.

26). West and Central European plain steppe and forest-steppe region: That's a "semi-drought" and "semi-moist" circumstances. The representative species of the genus are *A. caucasica* Willd., *A. camphorata* Vill., *A. mutellina* Vill., *A. eriantha* Ten., *A. oelandica* (Bess.) Komar., *A. insipida* Vill., *A. genipi* Web. ex Stechm., *A. pseudo-pontica* Schr., *A. chamce elifolia* Vill., *A. abrotanum* Linn. and *A. pancicii* (Janka) Ronnig. etc.

27). Central European Mountain steppe and forest-steppe region: Those are the regional endemic species in the mountains of C. Europe. Perhaps they derived from the species, which migrated towards high altitude after Ice Age. *A. glacialis* Linn., *A. gabriellae* Br.-Bl. and *A. nitida* Bert. etc. are the representations.

10. S. Europe——the Mediterranean——W. & N.-W. African savanna subkingdom. That locates at S. Europe and the Mediterranean, as well as W. & N.-W. Africa and Islands in the Mediterranean and S.-E. Atlantic Ocean and it's with the vegetations of savanna or the shrubby with green leaves in the Winter. The species of the genus, distributed there, are the style of conserving the drought circumstance and the ancestor would be derived from that in the West and Central European steppe and forest-steppe subkingdom, but towards onto drought circumstance or a part of them are from the S.-W. Asia——Arab——Africa tropical desert or savanna subkingdom. So most of the species of the genus are the vicarious of the formers, only a few are the regional endemic species.

28). S. Europe —— the Mediterranean —— W. & N.-W. African savnanna region. *A. canariensis* Less., *A. atlantica* Coss. & Dur., *A. cantabrica* (Lainz) Lainz, A. *granatensis* Boiss. ex DC., *A. atrata* Lam., *A. molinieri* Quez. Barb. & Lois., *A. reptans* Chr.-Sm. ex Link., *A. hispanica* Lam. ex Boiss. and *A. crithmifolia* Linn. etc. are in the region.

11. Wide distributional species. In the genus *A. annua* Linn. widely distribute in the N. Hemisphere and N. Africa; *A. frigida* Willd., *A. campestris* Linn. and *A. dracunculus* Linn. are in N. temperate area; *A. verlotorum* Lamotte has only been in N. temperate and subtropical areas in Old World; *A. sacrorum* Ledeb. and *A. scoparia* Waldst. & Kit. are widely distributed in N. temperata and subtropical areas of Eurasia, but *A. absinthium* Linn., *A. tanacetifolia* Linn. and *A. vulgaris* Linn. are discontinuously distributed in N. temperate areas between Europe, N.-W. & C. Asia and N. America; *A. biennis* Willd. is discontinuously distributed in N. temperate area between Europe and N. America, and *A. indica* Willd. is wide-distributional species in the temperate and subtropical areas of Asia.

Tab. 2. The accounts of the species of Artemisia Linn. in the Old World

Subkingdoms	Regions	Species
1. Subholarctic subkingdom	1). Circumboreal (Subholarctic region	3
	2). N. Asia subholarctic region	5
	3). N.-E. Asia——N.-W. America subholarctic region	6
	4). Eurasia subholarctic region	1
2. East Sibiria——Far East subkingdom	5). East Sibiria region	18
	6). Far East——N. Japan region	18
3. Eastern Asia forest subkingdom	7). N.-E. & N. China——N. Korea——N. japan region	16
	8). E. & C. China——Korea——Japan region	17
	9). N.-C. China oblique exchangeconvergence region	12
	10). Taiwan regional endemic region	6
	11). S. & S. E. China and S.-E. Asia region	4

接上表

Subkingboms	Regions	Species
4. Hengduang——Himalayan Mts. forest subkingdom	12). W. Sichuan——N.-W. Yunnan subalpine or alpine region	47
	13). Eastern Xizang region	10
	14). The islet region of NLY.	3
	15). The South Himalayan Mts. region	4
5. Eurasia steppe or semi-desert-steppe subkingdom	16). C. Asia (East)——Mongolia (West) steppe or semidesert-steppe region	36
	17). W. Sihiria——E. Europe steppe region	7
	18). Altai mountain steppe region	2
6. Asia desert (C. Asia——W. Asia) (the Ancient Mediterranean) subkingdom	19). C. Asia——W. Asia desert region	17
	20). Pamir, Alai——W. Kulum, W. Himalaya region	7
	21). Caucasus exchange-convergence region	4
7. Qinghai-Xizang plateau subkingdom	22). Tangut region	5
	23). Chiangtang Plateau——Gangdis Mts. region	7
8. S.-W. Asia——Arab——Africa tropical desert and savanna subkingdom	24). S.-W. Asia——Arab——N. & N.-E. Africa desert and savanna region	5
	25). E. & S. Africa savanna region	3
9. West and Central European steppe and forest-steppe subkingdom	26). West and Central European plain steppe and forest-steppe region	11
	27). Central European Mountain steppe and forest-steppe region	3
10. S. Europe——the Mediterranean——W. & N.-W. African savanna subkingdom	28). S. Europe——the Mediterranean——W. & N.-W. African savanna region	9
11. Wide-distributional species		12
Totals		298

Acknowledgments

Author thanks for the helps from curators and staffs of the following herbaria and libraries: British Museum (Nat. His.), Royal Botanic Gardens, Kew and Edinbough, Linnean Society, Botany School of University of Cambridge in UK; Museum National D' Histoire Naturelle, Laboratoire de Phanerogamie, Paris, France and Rijksherbarium, Leiden, the Netherlands. Author also thanks for the helps from the national and subnational herbaria in China. Those are IBG, YNTBI, LZDI, SCBI, NWBI, CDBI, KUN, FPI, WUBI, PE, XJBI, MMI, CMMI, SCFI, JSBI, WUG, SYS, YUNU, NMU, SZ, NETU, LZU, WNU, WH, MMU, FJTU, NMAC, NMTC, NEFI, XJA-IAC, etc., for their supplying specimens and data on Artemisia Linn. Besides Dr. C. J. Humphries did favours to author, when author was researching the project in UK. within 1985. 4.——1986. 6.

ABSTRACT

The classification and distribution of Artemisia Linn. (Compositae) in the Old World are systematically introduced, and the floristic regions of the genus, there, are also offered.

Key Words Old World, *Artemisia*

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(finished in June, 1986, and revised in Feb. 1991).